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OM protein - protein search, using sw model

Run on: November 14, 2005, 22:25:59 ; Search time 122.678 Seconds
(without alignments)
1264.207 Million cell updates/sec

Title: US-10-762-159-125
Perfect score: 2198
Sequence: 1 MNKLLCALVFLDISIKWTT.....QKLFLEMIGNQVQSKISCL 401

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A_Geneseq_16Dec04:.*
1: Geneseqp1980s:.*
2: Geneseqp1990s:.*
3: Geneseqp2000s:.*
4: Geneseqp2001s:.*
5: Geneseqp2002s:.*
6: Geneseqp2003as:.*
7: Geneseqp2003bs:.*
8: Geneseqp2004s:.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	2198	100.0	401	2	AAW38345 Human ost
2	2198	100.0	401	3	AAAY43400 Osteoprot
3	2198	100.0	401	4	AAB66976 Human OP
4	2198	100.0	401	5	ABG71823 Wild type
5	2198	100.0	401	6	ABP55109 Human ost
6	2198	100.0	401	6	AAE34363 Human ost
7	2198	100.0	401	7	ADD01627 Human ost
8	2198	100.0	401	8	ADM28813 Human ost
9	2193	99.8	400	6	ABU08820 Human ost
10	2193	99.8	401	5	ABG73895 Human OP
11	2193	99.8	401	5	ABG73894 Human OP
12	2192	99.7	401	2	AAAY05742 Tumour ne
13	2192	99.7	401	2	AAW95030 Tumour ne
14	2192	99.7	401	2	AAW83926 Human FTH
15	2192	99.7	401	3	AB18715 A human t
16	2192	99.7	401	4	AAB60570 Human TNF
17	2192	99.7	401	5	ABG73893 Human OP
18	2192	99.7	401	6	AAE36245 Human TRA
19	2192	99.7	401	6	AAO31135 Human TRA
20	2192	99.7	401	7	ADD01625 Human ost
21	2192	99.7	401	7	ADFL16158 Human alb
22	2192	99.7	401	7	ADFL16153 Human alb
23	2192	99.7	401	7	ADFL16151 Human alb
24	2192	99.7	401	7	ADFL15231 Human alb
25	2192	99.7	401	7	ADFL16152 Human alb

26	2192	99.7	401	7	ADFL16154 Human alb
27	2192	99.7	401	7	ADFL16155 Human alb
28	2192	99.7	401	7	ADFL16156 Human alb
29	2192	99.7	401	7	ADFL15230 Human alb
30	2192	99.7	401	7	ADFL15244 Human alb
31	2192	99.7	401	7	ADFL16157 Human alb
32	2192	99.7	401	8	ADK82154 Human TRA
33	2192	99.7	986	7	ADFL15016 Human alb
34	2192	99.7	986	7	ADFL15030 Human alb
35	2190	99.6	401	5	ABG73890 Human OP
36	2188	99.5	401	5	ABG73891 Human OP
37	2187	99.5	401	2	AAW99925 Full leng
38	2187	99.5	401	2	AAW53239 Human OCI
39	2187	99.5	401	3	AAW88622 Osteoclas
40	2187	99.5	401	6	ABP70997 Human ost
41	2187	99.5	401	7	ADD37427 Human ost
42	2187	99.5	401	8	ADQ68056 Human ost
43	2184	99.4	401	5	ABG73892 Human OP
44	2183	99.3	401	2	AAW57635 TR1 recep
45	2177	99.0	401	2	AAW99931 Mutated O

ALIGNMENTS

RESULT 1

AAW38345
ID AAW38345 standard; protein; 401 AA.

XX AC AAW38345;

XX DT 20-APR-1998 (first entry)

XX DE Human osteoprotegerin.

XX KW Osteoprotegerin; antibody; diagnosis; affinity purification;

XX KW recombinant production; transgenic animal; treatment; prevention;

XX KW anticense oligonucleotide; probe; detection; screening; human;

XX KW bone disease; osteoporosis; Paget's disease; hypercalcaemia;

XX KW hyperparathyroidism; rheumatoid arthritis; osteomyelitis;

XX KW osteolytic metastasis; periodontal bone loss; bone necrosis; osteopaenia.

XX OS Homo sapiens.

XX PN DE19654610-A1.

XX PD 26-JUN-1997.

XX PF 20-DEC-1996; 96DE-01054610.

XX PR 22-DEC-1995; 95US-00577788.

XX PR 03-SEP-1996; 96US-00706945.

XX PA (AMGE-) AMGEN INC.

XX PI Boyle WJ, Lacey DL, Calzone FJ, Chang M;

XX DR WPI; 1997-334271/31.

XX DR N-PSDB; AAT96063.

XX PT Nucleic acid encoding osteoprotegerin - useful for treatment of diseases involving excessive bone loss, e.g. osteoporosis.

XX PS Claim 23; Page 109-111; 182pp; German.

XX CC The present sequence is human osteoprotegerin (OPG). Anti-OPG antibodies can be used in OPG diagnostic assays, and as affinity purification materials. The OPG cDNA can be used to express recombinant OPG and to generate transgenic animals. It can also be used to regulate the level of OPG in mammals, specifically to increase OPG levels, however the use of antisense sequences is also contemplated. Fragments of the cDNA can be used as probes to detect OPG expressing cells and tissue, and to screen cDNA libraries for related sequences. OPG can be used to treat or prevent

CC bone diseases, specifically excessive bone loss, e.g. osteoporosis,
CC Paget's disease, hypercalcaemia, hyperparathyroidism, rheumatoid
CC arthritis, osteomyelitis, osteolytic metastases, periodontal bone loss,
CC bone necrosis and osteopaenia
XX
SQ Sequence 401 AA;

Query Match 100.0%; Score 2198; DB 2; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-161;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEBTSQHLCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEBTSQHLCDKCPGTYLKQHCTAKWKT 60

Qy 61 VCAPCPDHYTDSWHTSDECLYCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 120

Qy 121 HRSCPPDHYTDSWHTSDECLYCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 180
Db 121 HRSCPPDHYTDSWHTSDECLYCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 180

Qy 181 HDNICSGNSESTQCGIDVTLCCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSGNSESTQCGIDVTLCCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy 241 KROHSSQEQTFQLKLWKHONKAQDIVKIIQDIDLCENSQVQRHIGHANITFFQLRSLME 300
Db 241 KROHSSQEQTFQLKLWKHONKAQDIVKIIQDIDLCENSQVQRHIGHANITFFQLRSLME 300

Qy 301 SLPGKKVGAEDIEKTIKACPSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPPKT 360

Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 2
AAY43400
ID AAY43400 standard; protein; 401 AA.
XX
AC AAY43400;
XX
XX
Dt 28-JAN-2000 (first entry)
XX
DE Osteoprotegrin protein sequence.
XX
XX Osteoprotegrin; OPG; human; cardiovascular disease; occlusion;
XX calcification; blood vessel; atherosclerosis; medial calcific sclerosis;
XX Monckeberg's arteriosclerosis; therapy.
XX
OS Homo sapiens.
XX
XX WO9953942-A1.
XX
XX 28-OCT-1999.
XX
XX 21-APR-1999; 99WO-US008793.
XX
XX 23-APR-1998; 98US-00064832.
XX
XX (AMGE-) AMGEN INC.
XX
XX Simonet S, Sarosi I;
XX
XX WPI; 2000-013182/01.
XX
XX N-PSDB; AAZ37254.
XX
XX Treating and preventing cardiovascular diseases, especially
XX atherosclerosis and Monckeberg's arteriosclerosis.
XX
XX

XX
PS Claim 9; Page 37-39; 43pp; English.
XX
CC This sequence represents the human osteoprotegrin (OPG). The invention
CC relates to a method of treating or preventing cardiovascular disease by
CC administering OPG. The method can be used to treat and prevent
CC cardiovascular diseases associated with occlusion and calcification of
CC blood vessels, especially atherosclerosis or Monckeberg's
CC arteriosclerosis, i.e. medial calcific sclerosis. Using OPG to treat or
CC prevent cardiovascular diseases provides an alternative to invasive
CC treatments. OPG can be used as a single therapeutic for prevention and
XX treatment of both osteoporosis and cardiovascular diseases
SQ Sequence 401 AA;

Query Match 100.0%; Score 2198; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-161;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEBTSQHLCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEBTSQHLCDKCPGTYLKQHCTAKWKT 60

Qy 61 VCAPCPDHYTDSWHTSDECLYCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 120

Qy 121 HRSCPPDHYTDSWHTSDECLYCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 180
Db 121 HRSCPPDHYTDSWHTSDECLYCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 180

Qy 181 HDNICSGNSESTQCGIDVTLCCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSGNSESTQCGIDVTLCCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy 241 KROHSSQEQTFQLKLWKHONKAQDIVKIIQDIDLCENSQVQRHIGHANITFFQLRSLME 300
Db 241 KROHSSQEQTFQLKLWKHONKAQDIVKIIQDIDLCENSQVQRHIGHANITFFQLRSLME 300

Qy 301 SLPGKKVGAEDIEKTIKACPSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPPKT 360

Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 3
AAB66976
ID AAB66976 standard; protein; 401 AA.
XX
AC AAB66976;
XX
Dt 19-APR-2001 (first entry)
XX
DE Human OPG.
XX
XX Bone loss; osteoprotegrin; OPG; rheumatoid arthritis; hyperalgesia;
XX multiple sclerosis; osteoporosis; osteomyelitis; asthma; inflammation;
XX systemic lupus erythematosus; graft-versus-host disease; septic shock;
XX acute pancreatitis; Alzheimer's disease; anorexia; atherosclerosis; pain;
XX coronary condition; myocardial infarction; cancer; diabetes; psoriasis;
XX endometriosis; fever; glomerulonephritis; inflammatory bowel disease;
XX ischaemia; Parkinson's disease.
XX
OS Homo sapiens.
XX
XX WO200103719-A2.
XX
XX 18-JAN-2001.
XX
XX 07-JUL-2000; 2000WO-US018667.
XX
XX

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XX 09-JUL-1999; 99US-00350670.
PR 09-DEC-1999; 99US-00457647.
XX (AMGE-) AMGEN INC.
XX Boyle WJ, Lacey DL, Calzone FJ, Chang M, Senaldi G;
XX WPI; 2001-103031/11.
DR N-PSDB; AAF57838.
XX
XX Treating conditions leading to bone loss such as rheumatoid arthritis,
PT multiple sclerosis and asthma, comprises administering an osteoprotegerin
PT protein in conjunction with e.g. inhibitors of interleukin and tumor
PT necrosis factor alpha.
XX
XX Example 5; Fig 9; 316pp; English.
XX
XX The present invention relates to a method for treating conditions leading
XX to bone loss. The method comprises administering a purified and isolated
XX osteoprotegerin (OPG) protein (AAF57836-AAF57838 and AAB66974-AAB66976)
XX in conjunction with other substances such as tumour necrosis factor-alpha
XX (TNF-alpha) inhibitors, interleukin (IL)-6, -8 and -18 inhibitors, ICE
XX modulators, fibroblast growth factor (FGF)-1-10 modulators and/or platelet
XX activating factor (PAF) antagonists. The method is useful for treating
XX conditions leading to bone loss such as rheumatoid arthritis, multiple
XX sclerosis, osteoporosis, osteomyelitis and asthma. The method is also
XX useful for treating inflammation, systemic lupus erythematosus (SLE) and
XX graft-versus-host disease (GVHD). Other diseases that can be treated
XX include acute pancreatitis, Alzheimer's disease, anorexia,
XX atherosclerosis, coronary conditions (e.g. myocardial infarction),
XX cancer, diabetes, endometriosis, fever, glomerulonephritis, hyperalgesia,
XX inflammatory bowel disease, ischaemia, pain, Parkinson's disease,
XX psoriasis and septic shock
XX
XX SQ Sequence 401 AA;

Query Match 100.0%; Score 2198; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-161;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60

Qy 61 VCAPCPDHYTDSWHTSDECLYCSPVKELQYVQECNRTNRYCECKEGRYLIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSPVKELQYVQECNRTNRYCECKEGRYLIEFCLK 120

Qy 121 HRSCPPGFGVVQAGTPERTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGFGVVQAGTPERTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy 181 HDN1CSGNESTQKGDIVLCEAFRFAVPTKFTPNWLSVLDNLPGTKVNAESVERI 240
Db 181 HDN1CSGNESTQKGDIVLCEAFRFAVPTKFTPNWLSVLDNLPGTKVNAESVERI 240

Qy 241 KROHSSQEQTFQLLWKHQKQADIVKK1IQID1DLCSNSVQRHGHANLTFEQLRSIME 300
Db 241 KROHSSQEQTFQLLWKHQKQADIVKK1IQID1DLCSNSVQRHGHANLTFEQLRSIME 300

Qy 301 SLPGKKVGAEDIETIKACPKSDQILKLLSWRIKNGDQDTLKGIMHALKHSKTYHPPKT 360
Db 301 SLPGKKVGAEDIETIKACPKSDQILKLLSWRIKNGDQDTLKGIMHALKHSKTYHPPKT 360

Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVSVKISCL 401

RESULT 4
ABG71823
ID ABG71823 standard; protein; 401 AA.
```

ABG71823;

14-APR-2003 (first entry)

Wild type human OPG (osteoprotegerin) protein.

RANKL; human receptor activator of NFkappaB; osteoprotegerin; OPG; RANK ligand; osteoclastogenesis; osteoclast inhibitor; gene therapy; osteoporosis; bone disease; human.

Homo sapiens.

WO200264782-A2.

22-AUG-2002.

08-FEB-2002; 2002WO-DK000090.

09-FEB-2001; 2001DK-00000214.

09-FEB-2001; 2001US-0267843P.

23-MAR-2001; 2001DK-00000498.

23-MAR-2001; 2001US-0278320P.

(MAXY-) MAXYGEN HOLDINGS LTD.

Haaning JM, Halkier T;

WPI; 2002-691592/74.

Novel human receptor activator of NFkappaB (hRANK) or human osteoprotegerin (hOPG) variant polypeptides which bind to RANK ligand (RANKL) with equivalent binding affinity as hRANK or hOPG, useful for treating osteoporosis.

Example 6; Fig 2; 129pp; English.

This invention relates to a novel mutant proteins having an amino acid sequence that is different from and is at least about 70% identical to the amino acid sequence of human receptor activator of NFkappaB (hRANK) or human osteoprotegerin (hOPG), and which has a binding affinity to RANK ligand (RANKL) that is at least as high as the binding affinity of hRANK or hOPG to RANKL, as determined by functional competition assay. The protein of the invention may have osteopathic activity and may act as a RANKL-mediated osteoclastogenesis or RANKL-mediated osteoclast activity inhibitor. The nucleotide sequence shown in the invention may be used in gene therapy. The protein of the invention or fusion proteins comprising this protein are useful as a pharmaceutical, and in the preparation of a medicament for treating or preventing osteoporosis, or other bone diseases or diseases associated with binding of RANKL to the RANK receptor. A host cell containing a vector expressing the protein is useful for producing a polypeptide having binding affinity to RANKL, where the polypeptide comprises at least one N- or O-glycosylation site and the host cell is a eukaryotic host cell capable of in vivo glycosylation, and/or the polypeptide is subjected to conjugation to a non-polypeptide moiety in vitro. The protein of the invention has increased functional in vivo half-life and/or serum half-life compared to hRANK or hOPG and has an improved binding affinity to RANKL compared to the binding affinity of hRANK or hOPG to RANKL, as determined by a functional competition assay. The present sequence represents the human wild type OPG (osteoprotegerin) protein used to generate the mutant proteins invention

Sequence 401 AA;

Query Match 100.0%; Score 2198; DB 5; Length 401;

Best Local Similarity 100.0%; Pred. No. 2.8e-161;

Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60

Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60

QY 61 VCAPCPDHYTDSWHTSDECLYSPVCKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLK 120
 DB 61 VCAPCPDHYTDSWHTSDECLYSPVCKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLK 120
 QY 121 HRSPPGFGVVGAGTVPRTNVCRCRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
 DB 121 HRSPPGFGVVGAGTVPRTNVCRCRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
 QY 181 HDNICSNSSESTQCGIDVTLCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
 DB 181 HDNICSNSSESTQCGIDVTLCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
 QY 241 KROHSSOEQTFLKLWKHQKQADIVKKIIQDIDLCENSVQRHIGHANITFEOLRSIME 300
 DB 241 KROHSSOEQTFLKLWKHQKQADIVKKIIQDIDLCENSVQRHIGHANITFEOLRSIME 300
 QY 301 SLPGKKGVAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGMLHAKHSKTYHPKPT 360
 DB 301 SLPGKKGVAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGMLHAKHSKTYHPKPT 360
 QY 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401
 DB 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401

RESULT 5

ABP55109
 ID ABP55109 standard; protein; 401 AA.

XX AC ABP55109;
 XX
 DT 05-FEB-2003 (first entry)
 XX
 DE Human osteoprotegerin receptor.
 XX
 KW Osteoprotegerin; receptor; OPG; human; autoimmune disease;
 KW rheumatoid arthritis; diabetes; osteoarthritis; psoriasis;
 KW inflammatory bowel disease; transplant rejection; allergy;
 KW immunosuppressive; antirheumatic; antiarthritic; antidiabetic;
 KW antiproliferative; immunosuppressive; antiallergic; antiinflammatory;
 KW osteopathic; antitumor; monocyte.
 XX
 OS Homo sapiens.
 XX
 PN W0200276507-A2.
 XX
 PD 03-OCT-2002.
 XX
 PF 06-FEB-2002; 2002WO-US001238.
 XX
 PR 23-MAR-2001; 2001US-0278215P.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PI Grewal I;
 XX
 DR WPI; 2003-058352/05.
 DR N-PSDB; ABV75843.
 XX
 PT Stimulating mammalian monocytes by exposing to an OPG ligand polypeptide,
 PT useful for treating immune related disorders such as autoimmune disease,
 PT rheumatoid arthritis, diabetes, osteoarthritis, psoriasis, and allergy.
 XX
 PS Disclosure; Fig 2B; 11pp; English.
 XX
 CC The present sequence is the protein sequence of human osteoprotegerin
 CC (OPG) receptor. The invention provides methods of using OPG ligand (OPGL)
 CC to activate monocytes to secrete chemokines or cytokines by exposing a
 CC mammalian cell (in cell culture or in a mammal) to OPGL. Also provided
 CC are methods of using OPGL to treat conditions or diseases in mammals
 CC associated with, or resulting from lack of, or decreased, chemokine or
 CC cytokine secretion by monocytes. The invention also provides OPGL agonist
 CC and antagonist molecules to modulate immune activity. These may include

CC antibodies to the OPG or RANK receptors. An antagonist comprising an anti
 CC -OPGL antibody, an anti-OPG receptor antibody, an anti-RANK receptor
 CC antibody, an OPG receptor immunoadhesin or a RANK receptor immunoadhesin
 CC is used in a claimed method of treating an immune-related condition,
 CC especially an autoimmune disease, rheumatoid arthritis, insulin dependent
 CC diabetes, osteoarthritis, inflammatory bowel disease (especially
 CC ulcerative colitis or Crohn's disease), psoriasis, transplant rejection
 CC or allergy
 XX
 SQ Sequence 401 AA;

Query Match 100.0%; Score 2198; DB 6; Length 401;
 Best Local Similarity 100.0%; Pred. No. 2.8e-161;
 Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MNKLLCCALVFLDISIKWTQETFPKYLHYDETSQQLLCKDCPPGTYLKQHCTAKWKT 60
 DB 1 MNKLLCCALVFLDISIKWTQETFPKYLHYDETSQQLLCKDCPPGTYLKQHCTAKWKT 60
 QY 61 VCAPCPDHYTDSWHTSDECLYSPVCKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLK 120
 DB 61 VCAPCPDHYTDSWHTSDECLYSPVCKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLK 120
 QY 121 HRSPPGFGVVGAGTVPRTNVCRCRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
 DB 121 HRSPPGFGVVGAGTVPRTNVCRCRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
 QY 181 HDNICSNSSESTQCGIDVTLCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
 DB 181 HDNICSNSSESTQCGIDVTLCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
 QY 241 KROHSSOEQTFLKLWKHQKQADIVKKIIQDIDLCENSVQRHIGHANITFEOLRSIME 300
 DB 241 KROHSSOEQTFLKLWKHQKQADIVKKIIQDIDLCENSVQRHIGHANITFEOLRSIME 300
 QY 301 SLPGKKGVAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGMLHAKHSKTYHPKPT 360
 DB 301 SLPGKKGVAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGMLHAKHSKTYHPKPT 360
 QY 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401
 DB 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401

RESULT 6

AAE34363
 ID AAE34363 standard; protein; 401 AA.

XX AC AAE34363;
 XX
 DT 14-MAY-2003 (first entry)
 XX
 DE Human osteoprotegerin (OPG) protein.
 XX
 KW Human; acute septic arthritis; osteomalacia; hyperparathyroidism;
 KW Cushing's syndrome; receptor activator of NF-kappa B; cancer; scurvy;
 KW bone formation; rickets; Langerhan's cell histiocytosis; gene therapy;
 KW monoclonal fibrous dysplasia; radiation therapy; spinal cord injury;
 KW RANK; Gaucher's disease; polyostotic fibrous dysplasia; OPG;
 KW osteoprotegerin.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT Peptide 1..21
 FT Protein /label= signal_peptide
 FT Protein 22..401
 FT Protein /note= "Mature OPG protein"
 XX
 PN W0200292016-A2.
 XX
 PD 21-NOV-2002.
 XX


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PF 17-MAY-2002; 2002WO-US016002.
XX
PR 17-MAY-2001; 2001US-0291919P.
XX
PA (IMMV ) IMMUNEX CORP.
XX
PI Dougall WC, Anderson DM;
XX
XX WPI; 2003-129220/12.
DR N-PSDB; AAD52597.
XX
PT Treating patients having e.g. acute septic arthritis, osteomalacia,
PT hyperparathyroidism, Cushing's syndrome or spinal cord injury, comprises
PT administering a receptor activator of NF-kappa B antagonist to increase
PT bone formation.
XX
PS Claim 1; Page 47-49; 52pp; English.
XX
XX The invention relates to a method of treating a patient having e.g. acute
XX septic arthritis, osteomalacia, hyperparathyroidism, Cushing's syndrome
XX or spinal cord injury. The method involves administering a receptor
XX activator of NF-kappa B (RANK) antagonist to stimulate an increase in the
XX rate for formation of new bone. RANK antagonist is capable of inhibiting
XX the ability of RANK to induce NF-kappa B. The method is useful for
XX stimulating bone formation, or for treating patients having acute septic
XX arthritis, osteomalacia (including rickets and scurvy),
XX hyperparathyroidism, Cushing's syndrome, monostotic fibrous dysplasia,
XX polyostotic fibrous dysplasia, Gaucher's disease, Langerhan's cell
XX histiocytosis, spinal cord injury. Patients requiring periodontal
XX reconstruction, or patients who have completed a course or radiation
XX therapy for cancer. The method is also useful for treating a patient who
XX is a prosthetic joint recipient, a bone graft recipient, or a ligament
XX graft recipient. The invention is useful in gene therapy. The present
XX sequence is human osteoprotegerin (OPG). OPG serves as human RANK
XX antagonist
XX
SQ Sequence 401 'AA;
Query Match 100.0%; Score 2198; DB 6; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-161;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDETSHQLLCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDETSHQLLCDKCPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSFVKELQYVQECNRTNHRVCECKEGRYLIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSFVKELQYVQECNRTNHRVCECKEGRYLIEFCLK 120
Qy 121 HRSCPPGFGVVQAGTTPERTVCKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGFGVVQAGTTPERTVCKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSNGSESTQCGIDVTLCBAFFRAFPVPTFTFNWLSVLVDNLPGLTKWNAESVERI 240
Db 181 HDNICSNGSESTQCGIDVTLCBAFFRAFPVPTFTFNWLSVLVDNLPGLTKWNAESVERI 240
Qy 241 KROHSSOEOTFOLLKWKHQKADIVKIIQDIDLCENSVORHGHANLTFEOLRSIME 300
Db 241 KROHSSOEOTFOLLKWKHQKADIVKIIQDIDLCENSVORHGHANLTFEOLRSIME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGIMALKHSKTYHPFKT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGIMALKHSKTYHPFKT 360
Qy 361 VTQSLKTTIRLHSTFTMYKLYQKLFLEIMIGNOVQSVKISCL 401
Db 361 VTQSLKTTIRLHSTFTMYKLYQKLFLEIMIGNOVQSVKISCL 401
RESULT 7
ADD01627
```

```
ID ADD01627 standard; protein; 401 AA.
XX
AC ADD01627;
XX
DT 01-JAN-2004 (first entry)
XX
DE Human osteoprotegerin amino acid sequence SEQ ID NO:4.
XX
XX fibrotic disease; cysteine-rich domain; osteoprotegerin; scleroderma;
KW antiinflammatory; gene therapy; human.
XX
OS Homo sapiens.
XX
PN WO2003084560-A2.
XX
PD 16-OCT-2003.
XX
PF 26-MAR-2003; 2003WO-EP050080.
XX
PR 10-APR-2002; 2002EP-00100364.
XX
PA (ISTF ) ARS APPLIED RES SYSTEMS HOLDING NV.
XX
PI Power C, Plater-Zyberk C;
XX
XX WPI; 2003-804248/75.
DR N-PSDB; ADD01626.
XX
XX Use of a substance for the manufacture of a medicament for treating or
XX preventing fibrotic disease.
XX
PS Claim 1; SEQ ID NO 4; 68pp; English.
XX
XX The present invention describes a substance which is useful for the
XX manufacture of a medicament for treating or preventing fibrotic disease.
XX The substance comprises: (a) a polypeptide comprising a fully defined
XX sequence having 401 amino acids (see ADD01625 and ADD01627), or its amino
XX acids 22-401 or 22-194; (b) a polypeptide comprising 1, 2, 3 or 4
XX cysteine-rich domains of osteoprotegerin; (c) a mutein of (a)-(b) that is
XX encoded by a DNA sequence that hybridises to the complement of the DNA
XX sequence encoding (a)-(b) under moderately or highly stringent conditions
XX ; where the amino acid sequence has at least 40, 50, 60, 70, 80 or 90%
XX identity with (a)-(b); and where any changes in the amino acid sequence in
XX are conservative amino acid substitutions to the amino acid sequence in
XX (a)-(b); or (d) a salt or an isoform, fused protein, functional
XX derivative, active fraction or circularly permuted derivative of (a)-
XX (c). Also described: (1) a polypeptide comprising the 401-amino acid
XX sequence and one, two, three or four cysteine-rich domains of
XX osteoprotegerin; and (2) a method for treating or preventing a fibrotic
XX disease, particularly scleroderma. The substance has antiinflammatory
XX activity, and can be used in gene therapy. A vector or cell comprising
XX the nucleic acid molecule encoding a polypeptide of the invention can be
XX used for inducing or enhancing the endogenous production of the
XX polypeptide in a cell for the preparation of a medicament for treating or
XX preventing a fibrotic disease, in particular scleroderma. The present
XX sequence represents a human osteoprotegerin amino acid sequence which is
XX used in the exemplification of the present invention.
XX
SQ Sequence 401 AA;
Query Match 100.0%; Score 2198; DB 7; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-161;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDETSHQLLCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDETSHQLLCDKCPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSFVKELQYVQECNRTNHRVCECKEGRYLIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSFVKELQYVQECNRTNHRVCECKEGRYLIEFCLK 120
Qy 121 HRSCPPGFGVVQAGTTPERTVCKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
```


QY 121 HRSPPGFGVQAGTPERTVCKPCDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
DB 121 HRSPPGFGVQAGTPERTVCKPCDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
QY 181 HDNCSGNESTQKGDIVTLCEEAFFFAVPTKFTPNWLSVLDNLPCTKVAESVERI 240
DB 181 HDNCSGNESTQKGDIVTLCEEAFFFAVPTKFTPNWLSVLDNLPCTKVAESVERI 240
QY 241 KROHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCSNSVORHIGHANLTFEQLRSLME 300
DB 241 KROHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCSNSVORHIGHANLTFEQLRSLME 300
QY 301 SLPGKKVGAEDIEKTIKACKESDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHPKPT 360
DB 301 SLPGKKVGAEDIEKTIKACKESDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHPKPT 360
QY 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
DB 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 9

ABU08820
ID ABU08820 standard; protein; 400 AA.

AC ABU08820;

XX 13-AUG-2003 (first entry)

XX Human osteoprotegerin protein.

XX Human; osteoprotegerin; endothelial morphogenesis; capillary formation.

OS Homo sapiens.

XX US2003022834-A1.

XX 30-JAN-2003.

XX 09-MAY-2002; 2002US-00142658.

XX 10-MAY-2001; 2001US-0290230P.

XX (MALY/) MALYANKAR U M.

XX (SCAT/) SCATENA M.

XX (GIAC/) GIACHELLI C M.

XX Malyankar UM, Scatena M, Giachelli CM;

XX WPI; 2003-479494/45.

XX N-PSDB; ABX93089.

XX Promoting endothelial morphogenesis for promoting formation of blood vessels, e.g. capillaries, in vivo in an area of damaged mammalian heart muscle, involves providing osteoprotegerin to one or more endothelial cells.

XX Claim 3; Page 9-10; 15pp; English.

XX This invention relates to a novel method for promoting endothelial morphogenesis, comprises providing osteoprotegerin to one or more endothelial cells. The invention also discloses an implantable medical device comprising a device body and a layer attached to a surface of the device body. The layer comprises a molecule such as osteoprotegerin or a nucleic acid molecule encoding osteoprotegerin, where the device is adapted to be completely or partially implanted into an animal body. The method of the invention is useful for promoting in vivo endothelial morphogenesis, such as the formation of capillaries which are formed in tissue (e.g. heart tissue) adjacent to an implanted medical device or the formation of an endothelial lining in a blood vessel, an artificial or natural blood vessel. The method is also useful for promoting endothelial morphogenesis in vitro. The implanted medical device is useful for

CC promoting endothelial morphogenesis in any situation, e.g. promotion of blood vessel growth in and around damaged heart muscle. The implanted medical device promotes the growth of blood vessels in the surrounding tissue, thereby reducing or preventing the formation of a collagenous capsule around the implanted medical device and foreign body reaction. The method is useful for promoting formation of blood vessels in vivo such as in an area of mammalian heart muscle that has been damaged, such as by reduced blood flow resulting from heart attack. The present sequence represents the human osteoprotegerin protein which is used in the method of the invention to promote endothelial morphogenesis

XX SQ Sequence 400 AA;

Query Match 99.8%; Score 2193; DB 6; Length 400;

Best Local Similarity 100.0%; Pred. No. 6.9e-161;

Matches 400; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 NKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHOLLCDKCPGTYLKQHTAKWKTV 61

DB 1 NKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHOLLCDKCPGTYLKQHTAKWKTV 60

QY 62 CAPCPDHYTDSWHTSDECLYCSVCKELOVYKQECNRTNHRVCECKEGRYLEIFCLKH 121

DB 61 CAPCPDHYTDSWHTSDECLYCSVCKELOVYKQECNRTNHRVCECKEGRYLEIFCLKH 120

QY 122 RSCPPGFGVQAGTPERTVCKPCDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATH 181

DB 121 RSCPPGFGVQAGTPERTVCKPCDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATH 180

QY 182 DNTCSGNESTQKGDIVTLCEEAFFFAVPTKFTPNWLSVLDNLPCTKVAESVERIK 241

DB 181 DNTCSGNESTQKGDIVTLCEEAFFFAVPTKFTPNWLSVLDNLPCTKVAESVERIK 240

QY 242 RQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCSNSVORHIGHANLTFEQLRSLMES 301

DB 241 RQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCSNSVORHIGHANLTFEQLRSLMES 300

QY 302 LPGKKVGAEDIEKTIKACKESDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHPKTV 361

DB 301 LPGKKVGAEDIEKTIKACKESDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHPKTV 360

QY 362 TQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

DB 361 TQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 400

RESULT 10

ABG73895
ID ABG73895 standard; protein; 401 AA.

XX AC ABG73895;

XX 14-APR-2003 (first entry)

XX Human OPG (osteoprotegerin) K108N protein mutant.

XX RANKL; human receptor activator of NFkappaB; osteoprotegerin; OPG;
XX RANK ligand; osteoclastogenesis; osteoclast inhibitor; gene therapy;
XX osteoporosis; bone disease; human; mutant; mutein; K108N.

XX Homo sapiens.

XX Synthetic.

XX Key Location/Qualifiers

XX FT Misc-difference 108

XX FT /note= "Wild type Lys substituted by Asn"

XX WO200264782-A2.

XX 22-AUG-2002.

XX 08-FEB-2002; 2002WO-DK000090.

XX

```
PR 09-FEB-2001; 2001DK-00000214.
PR 09-FEB-2001; 2001US-0267843P.
PR 23-MAR-2001; 2001DK-00000498.
PR 23-MAR-2001; 2001US-0278320P.
XX
PA (MAXY-) MAXYGEN HOLDINGS LTD.
XX
PI Haaning JM, Halkier T;
XX
DR WPI; 2002-691592/74.
XX
PT Novel human receptor activator of NFkappaB (hRANK) or human
PT osteoprotegerin (hOPG) variant polypeptides which bind to RANK ligand
PT (RANKL) with equivalent binding affinity as hRANK or hOPG, useful for
PT treating osteoporosis.
XX
PS Claim 90; Page; 129pp; English.
XX
CC This invention relates to a novel mutant proteins having an amino acid
CC sequence that is different from and is at least about 70% identical to
CC the amino acid sequence of human receptor activator of NFkappaB (hRANK)
CC or human osteoprotegerin (hOPG), and which has a binding affinity to RANK
CC ligand (RANKL) that is at least as high as the binding affinity of hRANK
CC or hOPG to RANKL, as determined by functional competition assay. The
CC protein of the invention may have osteopathic activity and may act as a
CC RANKL-mediated osteoclastogenesis or RANKL-mediated osteoclast activity
CC inhibitor. The nucleotide sequence shown in the invention may be used in
CC gene therapy. The protein of the invention or fusion proteins comprising
CC this protein are useful as a pharmaceutical, and in the preparation of a
CC medicament for treating or preventing osteoporosis, or other bone
CC diseases or diseases associated with binding of RANKL to the RANK
CC receptor. A host cell containing a vector expressing the protein is
CC useful for producing a polypeptide having binding affinity to RANKL,
CC where the polypeptide comprises at least one N- or O-glycosylation site
CC and the host cell is a eukaryotic host cell capable of in vivo
CC glycosylation, and/or the polypeptide is subjected to conjugation to a
CC non-polypeptide moiety in vitro. The protein of the invention has
CC increased functional in vivo half-life and/or serum half-life compared to
CC hRANK or hOPG and has an improved binding affinity to RANKL compared to
CC the binding affinity of hRANK or hOPG to RANKL, as determined by a
CC functional competition assay. The present sequence represents a mutant
CC human OPG (osteoprotegerin) protein of the invention. Note; This sequence
CC is not shown in the specification but was created by the indexer from the
CC wild type sequence shown in ABG71823 and the information given in claim
CC 90
XX
SQ Sequence 401 AA;
Query Match 99.8%; Score 2193; DB 5; Length 401;
Best Local Similarity 99.8%; Pred. No. 6.9e-161;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCDKPPGTYLKQHCTAKWKT 60
DB 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCDKPPGTYLKQHCTAKWKT 60
QY 61 VCAPCPHHYVTDSSHSTDECLYCSVCKELQYVKQECNRTHNRVCECKGRYLEIEFCLK 120
DB 61 VCAPCPHHYVTDSSHSTDECLYCSVCKELQYVKQECNRTHNRVCECKGRYLEIEFCLK 120
QY 121 HRSPPGFGVVGAAQTGPERNTVCKRCPDGFFSNETSAPCRKHTNCSVFGLLLTQKGNAT 180
DB 121 HRSPPGFGVVGAAQTGPERNTVCKRCPDGFFSNETSAPCRKHTNCSVFGLLLTQKGNAT 180
QY 181 HDNICSNGNSSTQKCGIDVTLCEBAFFRAFPVPTKTNWLSVLVDNLPGTKVNAESVERI 240
DB 181 HDNICSNGNSSTQKCGIDVTLCEBAFFRAFPVPTKTNWLSVLVDNLPGTKVNAESVERI 240
QY 241 KROHSSQEQTFOLLKWKHQNKAQDIYKKIIQIDLDLCENSVORHIGHANLTFFEQRLSIME 300
DB 241 KROHSSQEQTFOLLKWKHQNKAQDIYKKIIQIDLDLCENSVORHIGHANLTFFEQRLSIME 300
QY 301 SLPGKVKGAEDIEKTIKACFPDQILKLLSLWRIKNGDQDTLKLGMHALKHSKTYHPFKT 360
DB 301 SLPGKVKGAEDIEKTIKACFPDQILKLLSLWRIKNGDQDTLKLGMHALKHSKTYHPFKT 360
QY 361 VTQSLKKTIRFLHSFTMYKLYOKLFLEMIGNQVQSVKISCL 401
DB 361 VTQSLKKTIRFLHSFTMYKLYOKLFLEMIGNQVQSVKISCL 401
XX
RESULT 11
ABG73894
ID ABG73894 standard; protein; 401 AA.
XX
AC ABG73894;
XX
DT 14-APR-2003 (first entry)
XX
DE Human OPG (osteoprotegerin) T71A protein mutant.
XX
KW RANKL; human receptor activator of NFkappaB; osteoprotegerin; OPG;
KW RANK ligand; osteoclastogenesis; osteoclast inhibitor; gene therapy;
KW osteoporosis; bone disease; human; mutant; mutein; T71A.
XX
OS Homo sapiens.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 71 /note= "Wild type Thr substituted by Ala"
XX
PN WO200264782-A2.
XX
PD 22-AUG-2002.
XX
PF 08-FEB-2002; 2002WO-DK000090.
PR 09-FEB-2001; 2001DK-00000214.
PR 09-FEB-2001; 2001US-0267843P.
PR 23-MAR-2001; 2001DK-00000498.
PR 23-MAR-2001; 2001US-0278320P.
XX
PA (MAXY-) MAXYGEN HOLDINGS LTD.
XX
PI Haaning JM, Halkier T;
XX
DR WPI; 2002-691592/74.
XX
PT Novel human receptor activator of NFkappaB (hRANK) or human
PT osteoprotegerin (hOPG) variant polypeptides which bind to RANK ligand
PT (RANKL) with equivalent binding affinity as hRANK or hOPG, useful for
PT treating osteoporosis.
XX
PS Claim 89; Page; 129pp; English.
XX
CC This invention relates to a novel mutant proteins having an amino acid
CC sequence that is different from and is at least about 70% identical to
CC the amino acid sequence of human receptor activator of NFkappaB (hRANK)
CC or human osteoprotegerin (hOPG), and which has a binding affinity to RANK
CC ligand (RANKL) that is at least as high as the binding affinity of hRANK
CC or hOPG to RANKL, as determined by functional competition assay. The
CC protein of the invention may have osteopathic activity and may act as a
CC RANKL-mediated osteoclastogenesis or RANKL-mediated osteoclast activity
CC inhibitor. The nucleotide sequence shown in the invention may be used in
CC gene therapy. The protein of the invention or fusion proteins comprising
CC this protein are useful as a pharmaceutical, and in the preparation of a
CC medicament for treating or preventing osteoporosis, or other bone
CC diseases or diseases associated with binding of RANKL to the RANK
CC receptor. A host cell containing a vector expressing the protein is
CC useful for producing a polypeptide having binding affinity to RANKL,
CC where the polypeptide comprises at least one N- or O-glycosylation site
CC and the host cell is a eukaryotic host cell capable of in vivo
CC glycosylation, and/or the polypeptide is subjected to conjugation to a
CC non-polypeptide moiety in vitro. The protein of the invention has
CC increased functional in vivo half-life and/or serum half-life compared to
CC hRANK or hOPG and has an improved binding affinity to RANKL compared to
CC the binding affinity of hRANK or hOPG to RANKL, as determined by a
CC functional competition assay. The present sequence represents a mutant
CC human OPG (osteoprotegerin) protein of the invention. Note; This sequence
CC is not shown in the specification but was created by the indexer from the
CC wild type sequence shown in ABG71823 and the information given in claim
CC 90
XX
```

CC hRANK or hOPG and has an improved binding affinity to RANKL compared to
 CC the binding affinity of hRANK or hOPG to RANKL, as determined by a
 CC functional competition assay. The present sequence represents a mutant
 CC human OPG (osteoprotegerin) protein of the invention. Note: This sequence
 CC is not shown in the specification but was created by the indexer from the
 CC wild type sequence shown in ABG71823 and the information given in claim
 CC 89
 CC
 XX Sequence 401 AA;
 SQ

Query Match 99.8%; Score 2193; DB 5; Length 401;
 Best Local Similarity 99.8%; Pred. No. 6.9e-161;
 Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDEETSHQLLCKPCPGTYLKQHCTAKWKT 60
 Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDEETSHQLLCKPCPGTYLKQHCTAKWKT 60
 Qy 61 VCAPCPDHYTDSWHTSDECLYCSPVKELQYVQECNRTHNRVCECKEGRYLIEFCLK 120
 Db 61 VCAPCPDHYTDSWHTSDECLYCSPVKELQYVQECNRTHNRVCECKEGRYLIEFCLK 120
 Qy 121 HRSPPGPGVGVQAGTPERNTVCKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
 Db 121 HRSPPGPGVGVQAGTPERNTVCKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
 Qy 181 HDNCSGNESTQKCGIDVTLCBEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
 Db 181 HDNCSGNESTQKCGIDVTLCBEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
 Qy 241 KROHSSQEQTFQLLKWKHONKAQDQIVKKIIQDIDLCENSVQRHIGHANLTPEQLRSIME 300
 Db 241 KROHSSQEQTFQLLKWKHONKAQDQIVKKIIQDIDLCENSVQRHIGHANLTPEQLRSIME 300
 Qy 301 SLPGKKGVAEDIEKTIKACPSDQILKLLSLWRIKNGDQDTLKGMLHALKHSKTYHPKPT 360
 Db 301 SLPGKKGVAEDIEKTIKACPSDQILKLLSLWRIKNGDQDTLKGMLHALKHSKTYHPKPT 360
 Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
 Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 12
 AAY05742
 ID AAY05742 standard; protein; 401 AA.
 XX
 AC AAY05742;
 DT
 DE 19-JUL-1999 (first entry)
 XX Tumour necrosis factor receptor TR1.
 KW Tumour necrosis factor receptor; TR1; osteoprotegerin; agonist;
 KW antagonist; screening; human; cancer; AIDS; Alzheimer's disease;
 KW inflammation; arthritis; septicemia; autoimmune disease; psoriasis;
 KW inflammatory bowel disease; transplant rejection;
 KW graft versus host disease; infection; stroke; ischaemia;
 KW acute respiratory disease syndrome; restenosis; brain injury;
 KW bone disease; atherosclerosis; therapy.
 XX
 OS Homo sapiens.
 XX
 PN EP911633-A1.
 XX
 XX 28-APR-1999.
 XX
 PF 02-OCT-1998; 98EP-00203332.
 XX
 PR 08-OCT-1997; 97US-0061334P.
 XX
 XX (SMIK) SMITHKLINE BEECHAM CORP.

PI McDonnell PC, Young PR, Zou J;
 XX WPI; 1999-246560/21.
 DR
 XX Identifying agonists and antagonists of tumor necrosis factor related
 PT receptors TR1, TR3 and TR5, and of ligand TL3, useful for treatment of
 PT cancer, AIDS, Alzheimer's disease, bone disease etc.
 XX
 XX Disclosure; Page 10-12; 23pp; English.
 XX
 XX The present sequence represents tumour necrosis factor receptor (TNFR)
 CC TR1, also known as osteoprotegerin. The invention relates to TNFR related
 CC polypeptides TR1, TR3 and TR5 (see AAY05742-44) and their ligand TL3 (see
 CC AAY05745). TR1, TR3, TR5 and TL3 are used in claimed methods of
 CC identifying agonists and antagonists, i.e. compounds that bind to the
 CC receptors or ligand, and which activate (agonist) or inhibit activating
 CC of (antagonists) TR1, TR3, TR5 or TL3. A screening kit for identifying
 CC agonists, antagonists, ligands, receptors, substrates, enzymes etc. for
 CC TR1, TR3, TR5 or TL3 polypeptides is provided. The agonists and
 CC antagonists are useful for treatment of chronic and acute inflammation,
 CC arthritis, septicemia, autoimmune disease e.g. inflammatory bowel
 CC disease, psoriasis, transplant rejection, graft versus host disease,
 CC infection, stroke, ischaemia, acute respiratory disease syndrome,
 CC restenosis, brain injury, AIDS, bone diseases, cancer (e.g.
 CC lymphoproliferative disorders), atherosclerosis and Alzheimer's disease,
 CC etc., caused by imbalance of TR1, TR3, TR5 or TL3
 XX
 SQ Sequence 401 AA;
 Query Match 99.7%; Score 2192; DB 2; Length 401;
 Best Local Similarity 99.8%; Pred. No. 8.3e-161;
 Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDEETSHQLLCKPCPGTYLKQHCTAKWKT 60
 Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDEETSHQLLCKPCPGTYLKQHCTAKWKT 60
 Qy 61 VCAPCPDHYTDSWHTSDECLYCSPVKELQYVQECNRTHNRVCECKEGRYLIEFCLK 120
 Db 61 VCAPCPDHYTDSWHTSDECLYCSPVKELQYVQECNRTHNRVCECKEGRYLIEFCLK 120
 Qy 121 HRSPPGPGVGVQAGTPERNTVCKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
 Db 121 HRSPPGPGVGVQAGTPERNTVCKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
 Qy 181 HDNCSGNESTQKCGIDVTLCBEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
 Db 181 HDNCSGNESTQKCGIDVTLCBEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
 Qy 241 KROHSSQEQTFQLLKWKHONKAQDQIVKKIIQDIDLCENSVQRHIGHANLTPEQLRSIME 300
 Db 241 KROHSSQEQTFQLLKWKHONKAQDQIVKKIIQDIDLCENSVQRHIGHANLTPEQLRSIME 300
 Qy 301 SLPGKKGVAEDIEKTIKACPSDQILKLLSLWRIKNGDQDTLKGMLHALKHSKTYHPKPT 360
 Db 301 SLPGKKGVAEDIEKTIKACPSDQILKLLSLWRIKNGDQDTLKGMLHALKHSKTYHPKPT 360
 Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
 Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 13
 AAW95030
 ID AAW95030 standard; protein; 401 AA.
 XX
 AC AAW95030;
 XX
 XX 13-MAY-1999 (first entry)
 DT
 DE Tumour necrosis factor receptor (TNF-R) related polypeptide TR1.
 XX Tumour necrosis factor receptor; TNF-R; TR1; TR2; TL2; TL4; arthritis;
 KW Tumour necrosis factor receptor; TNF-R; TR1; TR2; TL2; TL4; arthritis;

KW inflammation; septicemia; autoimmune disease; transplant rejection;
KW graft vs. host disease; infection; stroke; ischemia; brain injury; AIDS;
KW acute respiratory disease syndrome; restenosis; bone disease; cancer;
KW atherosclerosis; Alzheimer's disease.
XX
OS Unidentified.
XX
XX
XX EP897114-A2.
XX
XX 17-FEB-1999.
XX
XX 04-JUN-1998; 98EP-00304424.
XX
XX 13-AUG-1997; 97US-0055513P.
PR 26-AUG-1997; 97US-0056980P.
PR 29-AUG-1997; 97US-0057550P.
XX
XX (SMIK) SMITHKLINE BEECHAM CORP.
XX
XX Brigham-Burke MR, Young PR;
XX
XX WPI; 1999-134308/12.
XX
XX Identifying agonists and antagonists to tumour necrosis factor receptor
PT (TNF-R) related polypeptides (LR1, LR2, LR3 and LR4) - useful for
PT treating stroke, Alzheimer's disease and AIDS.
XX
XX Disclosure; Page 11-12; 18pp; English.
XX
XX The invention relates to identifying agonists or antagonists to tumour
CC necrosis factor receptor (TNF-R) related polypeptides (TR1 and TR2, TR3
CC and TR4). The method comprises: (a) (i) contacting TR1 or TR2 with a
CC candidate compound in the presence of TR1 or TR2; or (ii) contacting TR2
CC or TR4 with a candidate compound in the presence of TR1 or TR2; and (b)
CC assessing the ability of the candidate compound to compete with TR1 or
CC TR2 binding to TR2 or TR4. TR and TR4 agonists and antagonists are useful
CC for treating diseases caused by imbalance of TR or TR polypeptide levels,
CC which cause: chronic and acute inflammation, arthritis, septicemia,
CC autoimmune diseases, transplant rejection, graft vs. host disease,
CC infection, stroke, ischemia, acute respiratory disease syndrome,
CC restenosis, brain injury, AIDS, bone diseases, cancer, atherosclerosis and
CC Alzheimer's disease. The present sequence represents a TNF-R related
CC polypeptide TR1
XX
XX Sequence 401 AA;

Query Match 99.7%; Score 2192; DB 2; Length 401;
Best Local Similarity 99.8%; Pred. No. 8.3e-161;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDETSKQLCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDETSKQLCDKCPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPHYTDSWHTSDECLYCSVCKELQYVKECNTRHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPHYTDSWHTSDECLYCSVCKELQYVKECNTRHNRVCECKEGRYLEIEFCLK 120
Qy 121 HRSCPPGFGVQAGTPERTNTVKCRCPDGFSSNETSKAPCRKHTNCSVFGLLTQKGNAT 180
Db 121 HRSCPPGFGVQAGTPERTNTVKCRCPDGFSSNETSKAPCRKHTNCSVFGLLTQKGNAT 180
Qy 181 HDNITCSGNSSESTQCGIDVILCEAFRFAVPTKFTPNWLSVLDNLPGLTKVNAESVERI 240
Db 181 HDNITCSGNSSESTQCGIDVILCEAFRFAVPTKFTPNWLSVLDNLPGLTKVNAESVERI 240
Qy 241 KRQSSQEQTFQLLKWQKQKADIVKKIIFQIDDLDCNSVQRHIGHANLTFFQRLSIME 300
Db 241 KRQSSQEQTFQLLKWQKQKQKADIVKKIIFQIDDLDCNSVQRHIGHANLTFFQRLSIME 300
Qy 301 SLPGKVKGAEDIKTIKACKPSDQILKLLSLWRINKGQDQTLKGLMALKHSKTYHPFKT 360
Db 301 SLPGKVKGAEDIKTIKACKPSDQILKLLSLWRINKGQDQTLKGLMALKHSKTYHPFKT 360

Qy 361 VTOSLKKTIIRFLHSFTMYKLYOKLFLEMIGNOVQSVKISCL 401
Db 361 VTOSLKKTIIRFLHSFTMYKLYOKLFLEMIGNOVQSVKISCL 401

RESULT 14

AAW83926
ID AAW83926 standard; protein; 401 AA.

AC AAW83926;

XX 01-MAR-1999 (first entry)

XX Human FTHMA-070 protein.

XX FTHMA-070; human; neurological disorder; therapy; diagnosis.

XX Homo sapiens.

XX Key Location/Qualifiers
FT Peptide 1..21
FT Protein 22..401
FT FT /label= Mat_protein

XX W09848051-A2.

XX 29-OCT-1998.

XX 17-APR-1998; 98WO-US0007714.

XX 18-APR-1997; 97US-0044746P.

XX 10-OCT-1997; 97US-0062017P.

XX (MILL-) MILLENNIUM BIOTHERAPEUTICS INC.

XX McCarthy SA, Holtzman D;

XX WPI; 1999-024021/02.

XX N-PSDB; AAV69277.

XX New isolated human FTHMA-070 and T85 proteins - used to develop products
PT for the diagnosis and therapy of disorders involving cellular processes,
PT e.g. neuronal development.

XX Claim 8; Fig 1; 127pp; English.

XX This is the amino acid sequence of human FTHMA-070, a novel protein
CC having homology to tumour necrosis factor receptor. The sequence was
CC deduced from that of a cDNA clone (see AAV69277) isolated from a cardiac
CC coronary artery smooth muscle cell library. FTHMA-070 nucleic acids and
CC polypeptides of the invention are useful as modulating agents in
CC regulating a variety of cellular processes. They can be used for
CC identifying compounds which bind to or modulate the activity of the
CC polypeptides (claimed). They can also be used in screening assays,
CC detection assays (e.g. chromosomal mapping, tissue typing, forensic
CC biology), predictive medicine (e.g. diagnostic assays, prognostic assays,
CC monitoring clinical trials, and pharmacogenomics), and methods of
CC treatment (e.g. therapeutic and prophylactic) e.g. for neurological
CC disorders

XX Sequence 401 AA;

Query Match 99.7%; Score 2192; DB 2; Length 401;
Best Local Similarity 99.8%; Pred. No. 8.3e-161;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDETSKQLCDKCPGTYLKQHCTAKWKT 60

Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDETSKQLCDKCPGTYLKQHCTAKWKT 60

Qy 61 VCAPCPHYTDSWHTSDECLYCSVCKELQYVKECNTRHNRVCECKEGRYLEIEFCLK 120

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Qy      |||||HRSCTPGFVQAGTPERTVCKRCPCDGFNSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db      |||||HRSCTPGFVQAGTPERTVCKRCPCDGFNSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy      |||||HDNICSNGSESTQKCGIDVTLCCEAFPRFAVPTKFTPNWLSVLDNLPCTKVNAESVERI 240
Db      |||||HDNICSNGSESTQKCGIDVTLCCEAFPRFAVPTKFTPNWLSVLDNLPCTKVNAESVERI 240
Qy      |||||KQHSQSQRTFOLLKWKHONKAQDIVKKIQQIDILCENSQRHIGHANLTFEQLRSLME 300
Db      |||||KQHSQSQRTFOLLKWKHONKAQDIVKKIQQIDILCENSQRHIGHANLTFEQLRSLME 300
Qy      |||||SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360
Db      |||||SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360
Qy      |||||VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db      |||||VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

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RESULT 15

AAB18715 ID AAB18715 standard; protein; 401 AA.

AC AAB18715;

XX 22-JAN-2001 (first entry)

XX A human tumour necrosis factor family receptor (TR1).

XX Human; tumour necrosis factor family receptor; TR1; tumour growth;
 KW cell proliferation; chlamydia infection; immunodeficiency; septic shock;
 KW T-cell mediated autoimmune disease; acquired immunodeficiency syndrome;
 KW AIDS; cerebral malaria; graft rejection; cytotoxicity; cachexia;
 KW apoptosis; inflammation; cancer; cardiovascular disease; angiogenesis;
 KW inflammatory disease; atherosclerosis; diabetes mellitus; allergy;
 KW neurological disorder; autoimmune disease; wound healing; bone formation;
 KW osteoporosis.

XX Homo sapiens.

Key	Location/Qualifiers
Peptide	1..21
Protein	/note= "signal peptide"
	22..401
	/note= "mature protein"

XX WO200054651-A2.

XX 21-SEP-2000.

XX 15-MAR-2000; 2000WO-US006592.

XX 15-MAR-1999; 99US-0124489P.

XX 26-MAY-1999; 99US-0136248P.

XX (HUMA-) HUMAN GENOME SCI INC.

XX Greene JM, Fleischmann RD, Ni J;

XX WPI; 2000-618858/59.

XX N-PSDB; AAA75736.

XX Novel tumor necrosis factor family receptor for diagnosing and treating
 PT acquired immunodeficiency syndrome, cancer, cardiovascular diseases,
 PT inflammatory diseases and autoimmune diseases.

XX Claim 13; Fig 1A-B; 228pp; English.

CC The present sequence represents a human tumour necrosis factor family
 CC receptor (TR1) polypeptide. An agonist to the TR1 receptor is useful for
 CC inhibiting tumour growth, to stimulate human cellular proliferation, to
 CC regulate immune response and antiviral response, to protect against the
 CC effects of ionising radiations, to protect against chlamydia infections,
 CC to regulate growth, and to treat immunodeficiencies such as in human
 CC immunodeficiency virus (HIV). An antagonist to the TR1 receptor is useful
 CC for treating T-cell mediated autoimmune diseases, acquired
 CC immunodeficiency syndrome (AIDS), septic shock, cerebral malaria, graft
 CC rejection, cytotoxicity, cachexia, apoptosis, and inflammation. TR1
 CC polynucleotides and polypeptides, and TR1 agonists and antagonists are
 CC useful for treating cancer, cardiovascular diseases, inflammatory
 CC diseases, atherosclerosis, diabetes mellitus, neurological disorders,
 CC autoimmune diseases, for promoting angiogenesis, for treating allergy,
 CC for wound healing, for regulating bone formation and for treating
 CC osteoporosis

XX SQ Sequence 401 AA;

Query Match 99.7%; Score 2192; DB 3; Length 401;

Best Local Similarity 99.8%; Pred. No. 8.3e-161;

Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy	1	MNKLCCALVFLDISIKWTTQETPPPKYLVHYDEETSHOLLCDCPCPGTYLKQHCCTAKWKT	60
Db	1	MNKLCCALVFLDISIKWTTQETPPPKYLVHYDEETSHOLLCDCPCPGTYLKQHCCTAKWKT	60
Qy	61	VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNTHNRVCECKEGRYLEIEFCLK	120
Db	61	VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNTHNRVCECKEGRYLEIEFCLK	120
Qy	121	HRSCTPGFVQAGTPERTVCKRCPCDGFNSNETSSKAPCRKHTNCSVFGLLLTQKGNAT	180
Db	121	HRSCTPGFVQAGTPERTVCKRCPCDGFNSNETSSKAPCRKHTNCSVFGLLLTQKGNAT	180
Qy	181	HDNICSNGSESTQKCGIDVTLCCEAFPRFAVPTKFTPNWLSVLDNLPCTKVNAESVERI	240
Db	181	HDNICSNGSESTQKCGIDVTLCCEAFPRFAVPTKFTPNWLSVLDNLPCTKVNAESVERI	240
Qy	241	KQHSQSQRTFOLLKWKHONKAQDIVKKIQQIDILCENSQRHIGHANLTFEQLRSLME	300
Db	241	KQHSQSQRTFOLLKWKHONKAQDIVKKIQQIDILCENSQRHIGHANLTFEQLRSLME	300
Qy	301	SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT	360
Db	301	SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT	360
Qy	361	VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL	401
Db	361	VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL	401

Search completed: November 14, 2005, 23:11:59

Job time : 123.678 secs

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GenCore version 5.1.6
Copyright (C) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: November 14, 2005, 23:07:15 ; Search time 109.532 Seconds
(without alignments)
1451.594 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_401

Perfect score: 2085

Sequence: 1 BTFPPKYLHYDEETSHQLLC.....QKLFLEMIGNQVQSVKISCL 380

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1867879 seqs, 418409474 residues

Total number of hits satisfying chosen parameters: 1867879

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA:*

- 1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep.*
- 2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep.*
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- 7: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep.*
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- 11: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep.*
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- 18: /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep.*
- 19: /cgn2_6/ptodata/1/pubpaa/US11A_PUBCOMB.pep.*
- 20: /cgn2_6/ptodata/1/pubpaa/US11_NEW_PUB.pep.*
- 21: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep.*
- 22: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2085	100.0	380	10	US-09-405-032-139
2	2085	100.0	380	16	US-10-676-358-1
3	2085	100.0	380	18	US-10-762-159-139
4	2085	100.0	400	14	US-10-142-658-2
5	2085	100.0	401	10	US-09-405-032-125
6	2085	100.0	401	14	US-10-151-071-8
7	2085	100.0	401	16	US-10-467-243-2
8	2085	100.0	401	17	US-10-129-595-3
9	2085	100.0	401	18	US-10-966-845-4
10	2085	100.0	401	18	US-10-762-159-125
11	2085	100.0	537	16	US-10-676-358-6

12	2081	99.8	401	20	US-11-058-073-125	Sequence 125, App
13	2079	99.7	380	9	US-09-062-113-4	Sequence 4, Appli
14	2079	99.7	380	14	US-10-232-858-4	Sequence 4, Appli
15	2079	99.7	380	16	US-10-785-109-4	Sequence 4, Appli
16	2079	99.7	380	16	US-10-785-114-4	Sequence 4, Appli
17	2079	99.7	380	17	US-10-929-958-4	Sequence 4, Appli
18	2079	99.7	380	17	US-10-929-748-4	Sequence 4, Appli
19	2079	99.7	380	17	US-10-979-303-4	Sequence 4, Appli
20	2079	99.7	380	18	US-10-979-654-4	Sequence 4, Appli
21	2079	99.7	380	18	US-10-775-204-543	Sequence 543, App
22	2079	99.7	391	9	US-09-062-113-106	Sequence 106, App
23	2079	99.7	391	14	US-10-232-858-106	Sequence 106, App
24	2079	99.7	391	16	US-10-785-109-106	Sequence 106, App
25	2079	99.7	391	16	US-10-785-114-106	Sequence 106, App
26	2079	99.7	391	17	US-10-929-958-106	Sequence 106, App
27	2079	99.7	391	17	US-10-929-748-106	Sequence 106, App
28	2079	99.7	391	17	US-10-979-303-106	Sequence 106, App
29	2079	99.7	391	18	US-10-979-654-106	Sequence 106, App
30	2079	99.7	401	9	US-09-062-113-5	Sequence 5, Appli
31	2079	99.7	401	13	US-10-086-209-1	Sequence 1, Appli
32	2079	99.7	401	13	US-10-105-934-2	Sequence 2, Appli
33	2079	99.7	401	13	US-10-164-592-2	Sequence 2, Appli
34	2079	99.7	401	14	US-10-183-091-1	Sequence 1, Appli
35	2079	99.7	401	14	US-10-364-045-1	Sequence 1, Appli
36	2079	99.7	401	14	US-10-232-858-5	Sequence 5, Appli
37	2079	99.7	401	14	US-10-044-674-3	Sequence 3, Appli
38	2079	99.7	401	14	US-10-322-673-5	Sequence 5, Appli
39	2079	99.7	401	14	US-10-139-785-5	Sequence 5, Appli
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42	2079	99.7	401	16	US-10-785-114-5	Sequence 5, Appli
43	2079	99.7	401	17	US-10-929-958-5	Sequence 5, Appli
44	2079	99.7	401	17	US-10-929-748-5	Sequence 5, Appli
45	2079	99.7	401	17	US-10-895-676-2	Sequence 2, Appli

ALIGNMENTS

RESULT 1

US-09-405-032-139

Sequence 139, Application US/09405032

Publication No. US20030207827A1

GENERAL INFORMATION:

APPLICANT: Amgen Inc.

TITLE OF INVENTION: OSTEOPROTEGERIN

NUMBER OF SEQUENCES: 168

CORRESPONDENCE ADDRESS:

ADDRESSEE: Amgen Inc.

STREET: 1840 Behavilland Drive

CITY: Thousand Oaks

STATE: California

COUNTRY: United States

ZIP: 91320

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/405,032

FILING DATE: 24-Sep-1999

CLASSIFICATION: <Unknown>

ATTORNEY/AGENT INFORMATION:

NAME: Winter, Robert B.

REFERENCE/DOCKET NUMBER: A-378-CIP2

INFORMATION FOR SEQ ID NO: 139:

SEQUENCE CHARACTERISTICS:

LENGTH: 380 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

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; SEQUENCE DESCRIPTION: SEQ ID NO: 139:
US-09-405-032-139
Query Match      100.0%; Score 2085; DB 10; Length 380;
Best Local Similarity 100.0%; Pred. No. 2.3e-167;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFPKYLHYDEETSHQLLCKDCPPGYLKHCHTAKWKTVCAPCPDHYHSDSWHTSDECL 60
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Qy 61 YCSPVKELQYVQKCNTHNRVCEKGRYLEIEFCLKHRSCLPPGFGVQAGTPERNTV 120
Db 61 YCSPVKELQYVQKCNTHNRVCEKGRYLEIEFCLKHRSCLPPGFGVQAGTPERNTV 120
Qy 121 CKRCPDFFSNSTSSKAPCRKHTNCSVFLGLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
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Db 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKVNESVERIKRQHSQSOQTQOLLKWKHQN 240
Qy 241 KAQDIVVKIIQDIDLCEMSVORHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
Db 241 KAQDIVVKIIQDIDLCEMSVORHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
Qy 301 SDQILKLLSLWRINKGDDTLKGLMHALKHSTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 301 SDQILKLLSLWRINKGDDTLKGLMHALKHSTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Qy 361 QKLFLEMIGNOVQSVKISCL 380
Db 361 QKLFLEMIGNOVQSVKISCL 380

RESULT 2
US-10-676-358-1
; Sequence 1, Application US/10676358
; Publication No. US20040137074A1
; GENERAL INFORMATION:
; APPLICANT: Nestec SA
; TITLE OF INVENTION: Osteoprotegerin in Milk
; FILE REFERENCE: 89265-6852
; CURRENT APPLICATION NUMBER: US/10/676,358
; PRIOR FILING DATE: 2003-10-02
; PRIOR APPLICATION NUMBER: WO 2002 EP 02912
; PRIOR FILING DATE: 2003-03-15
; PRIOR APPLICATION NUMBER: EP 20010108414
; PRIOR FILING DATE: 2001-04-03
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 1
; LENGTH: 380
; TYPE: PPT
; ORGANISM: homo sapiens
; US-10-676-358-1

Query Match      100.0%; Score 2085; DB 16; Length 380;
Best Local Similarity 100.0%; Pred. No. 2.3e-167;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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; SEQUENCE DESCRIPTION: SEQ ID NO: 139:
US-10-762-159-139
; Sequence 139, Application US/10762159
; Publication No. US20050221331A1
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 168
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/762,159
; FILING DATE: 2004-JAN-20
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/132,985
; FILING DATE: 1998-AUG-12
; APPLICATION NUMBER: 08/771,777
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378-CIP
; INFORMATION FOR SEQ ID NO: 139:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 380 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-10-762-159-139

Query Match      100.0%; Score 2085; DB 18; Length 380;
Best Local Similarity 100.0%; Pred. No. 2.3e-167;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 61 YCSPVKELQYVQKCNTHNRVCEKGRYLEIEFCLKHRSCLPPGFGVQAGTPERNTV 120
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DB 361 QKLFLEMIGNQVQSVKISCL 380

RESULT 4

US-10-142-658-2
; Sequence 2, Application US/10142658
; Publication No. US20030022834A1
; GENERAL INFORMATION:
; APPLICANT: Malyankar, Uriel M.
; APPLICANT: Scatena, Marta
; APPLICANT: Giachelli, Cecilia M.
; TITLE OF INVENTION: METHODS AND DEVICES FOR PROMOTING ENDOTHELIAL MORPHOGENESIS
; CURRENT APPLICATION NUMBER: US/10/142,658
; CURRENT FILING DATE: 2002-05-09
; PRIOR APPLICATION NUMBER: US 60/290,230
; PRIOR FILING DATE: 2001-05-10
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 400
; TYPE: PRT
; ORGANISM: Homo Sapiens
US-10-142-658-2

Query Match 100.0%; Score 2085; DB 14; Length 400;
Best Local Similarity 100.0%; Pred. No. 2.4e-167;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPPKYLHYDEETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
DB 21 ETPPKYLHYDEETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 80
QY 61 YCSPVCKELOVYKQECNRTHNRVCECKEGRYLEIEFCLKHRS CPPGFGVVOAGTPERNTV 120
DB 81 YCSPVCKELOVYKQECNRTHNRVCECKEGRYLEIEFCLKHRS CPPGFGVVOAGTPERNTV 140
QY 121 CKRCPDGFSSNETSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
DB 141 CKRCPDGFSSNETSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 200
QY 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERIKRQHSSEQOTFOLLKWLKHQN 240
DB 201 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERIKRQHSSEQOTFOLLKWLKHQN 260
QY 241 KAQDIVKKIIQIDILCENSQRHIGHANLTPEQLRSLMESLPGKKVGAEDIKTIKACKP 300
DB 261 KAQDIVKKIIQIDILCENSQRHIGHANLTPEQLRSLMESLPGKKVGAEDIKTIKACKP 320
QY 301 SDQILKLLSLWRINKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
DB 321 SDQILKLLSLWRINKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 380
QY 361 QKLFLEMIGNQVQSVKISCL 380

DB 381 QKLFLEMIGNQVQSVKISCL 400
RESULT 5
US-09-405-032-125
; Sequence 125, Application US/09405032
; Publication No. US20030207827A1
; GENERAL INFORMATION:
; APPLICANT: Amgen Inc.
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 168
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehaven Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/405,032
; FILING DATE: 24-Sep-1999
; CLASSIFICATION: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378-CIP2
; INFORMATION FOR SEQ ID NO: 125:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 125:
US-09-405-032-125

Query Match 100.0%; Score 2085; DB 10; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.4e-167;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPPKYLHYDEETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
DB 22 ETPPKYLHYDEETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
QY 61 YCSPVCKELOVYKQECNRTHNRVCECKEGRYLEIEFCLKHRS CPPGFGVVOAGTPERNTV 120
DB 82 YCSPVCKELOVYKQECNRTHNRVCECKEGRYLEIEFCLKHRS CPPGFGVVOAGTPERNTV 141
QY 121 CKRCPDGFSSNETSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
DB 142 CKRCPDGFSSNETSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201
QY 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERIKRQHSSEQOTFOLLKWLKHQN 240
DB 202 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERIKRQHSSEQOTFOLLKWLKHQN 261
QY 241 KAQDIVKKIIQIDILCENSQRHIGHANLTPEQLRSLMESLPGKKVGAEDIKTIKACKP 300
DB 262 KAQDIVKKIIQIDILCENSQRHIGHANLTPEQLRSLMESLPGKKVGAEDIKTIKACKP 321
QY 301 SDQILKLLSLWRINKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
DB 322 SDQILKLLSLWRINKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
QY 361 QKLFLEMIGNQVQSVKISCL 380
DB 382 QKLFLEMIGNQVQSVKISCL 401

```
RESULT 6
US-10-151-071-8
; Sequence 8, Application US/10151071
; Publication No. US20030017151A1
; GENERAL INFORMATION:
; APPLICANT: DOUGALL, William
; APPLICANT: ANDERSON, Dirk
; TITLE OF INVENTION: THERAPEUTIC USES OF RANK ANTAGONISTS
; FILE REFERENCE: 3277-A
; CURRENT APPLICATION NUMBER: US/10/151,071
; CURRENT FILING DATE: 2001-05-17
; PRIOR APPLICATION NUMBER: 60/291,919
; PRIOR FILING DATE: 2001-05-17
; NUMBER OF SEQ ID NOS: 10
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 8
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-151-071-8

Query Match      100.0%; Score 2085; DB 14; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.4e-167;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1  ETAPPKYLHYDEETSHQLLDCDCPPGTYLKQHCTAKWKTVCAPCPDHYHYTDSWHTSDECL 60
Db 22  ETAPPKYLHYDEETSHQLLDCDCPPGTYLKQHCTAKWKTVCAPCPDHYHYTDSWHTSDECL 81

Qy 61  YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHNATHDNIKROHSSQBOTFQLLKLWKHQN 120
Db 82  YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHNATHDNIKROHSSQBOTFQLLKLWKHQN 141

Qy 121  CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIKROHSSQBOTFQLLKLWKHQN 180
Db 142  CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIKROHSSQBOTFQLLKLWKHQN 201

Qy 181  CEEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERIKROHSSQBOTFQLLKLWKHQN 240
Db 202  CEEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERIKROHSSQBOTFQLLKLWKHQN 261

Qy 241  KAQDIVKKIIQDIDLCEVNSVQRHGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
Db 262  KAQDIVKKIIQDIDLCEVNSVQRHGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy 301  SDQILKLLSLWRKNGDQDTLKGMLHALKHSKTYHPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322  SDQILKLLSLWRKNGDQDTLKGMLHALKHSKTYHPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy 361  QKLFLEMIGNQVQSVKISCL 380
Db 382  QKLFLEMIGNQVQSVKISCL 401

RESULT 7
US-10-467-243-2
; Sequence 2, Application US/10467243
; Publication No. US20040132971A1
; GENERAL INFORMATION:
; APPLICANT: Maxygen Holdings Ltd.
; APPLICANT: Haaning, Jesper Mortensen
; APPLICANT: Halkier, Torben
; TITLE OF INVENTION: RANK LIGAND-BINDING POLYPEPTIDES
; FILE REFERENCE: 0226w0310
; CURRENT APPLICATION NUMBER: US/10/467,243
; CURRENT FILING DATE: 2003-08-06
; PRIOR APPLICATION NUMBER: DK PA 2001 00214
; PRIOR FILING DATE: 2001-02-09
; PRIOR APPLICATION NUMBER: US 60/267,843
; PRIOR FILING DATE: 2001-02-09
; PRIOR APPLICATION NUMBER: DK PA 2001 00498
; PRIOR FILING DATE: 2001-03-23
; PRIOR APPLICATION NUMBER: US 60/278,320

Query Match      100.0%; Score 2085; DB 17; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.4e-167;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1  ETAPPKYLHYDEETSHQLLDCDCPPGTYLKQHCTAKWKTVCAPCPDHYHYTDSWHTSDECL 60
Db 22  ETAPPKYLHYDEETSHQLLDCDCPPGTYLKQHCTAKWKTVCAPCPDHYHYTDSWHTSDECL 81

Qy 61  YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHNATHDNIKROHSSQBOTFQLLKLWKHQN 120
Db 82  YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHNATHDNIKROHSSQBOTFQLLKLWKHQN 141

Qy 121  CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIKROHSSQBOTFQLLKLWKHQN 180
Db 142  CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIKROHSSQBOTFQLLKLWKHQN 201

Qy 181  CEEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERIKROHSSQBOTFQLLKLWKHQN 240
Db 202  CEEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERIKROHSSQBOTFQLLKLWKHQN 261

Qy 241  KAQDIVKKIIQDIDLCEVNSVQRHGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
Db 262  KAQDIVKKIIQDIDLCEVNSVQRHGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy 301  SDQILKLLSLWRKNGDQDTLKGMLHALKHSKTYHPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322  SDQILKLLSLWRKNGDQDTLKGMLHALKHSKTYHPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy 361  QKLFLEMIGNQVQSVKISCL 380
Db 382  QKLFLEMIGNQVQSVKISCL 401

RESULT 8
US-10-129-595-3
; Sequence 3, Application US/10129595
; Publication No. US20050031583A1
; GENERAL INFORMATION:
; APPLICANT: Genentech, Inc. et al.
; TITLE OF INVENTION: Uses of OPG Ligand to Modulate Immune Responses
; FILE REFERENCE: P1830R1
; CURRENT APPLICATION NUMBER: US/10/129,595
; CURRENT FILING DATE: 2002-05-08
; PRIOR APPLICATION NUMBER: US 60/278,215
; PRIOR FILING DATE: 2001-03-23
; NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 3
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-129-595-3

Query Match      100.0%; Score 2085; DB 17; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.4e-167;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1  ETAPPKYLHYDEETSHQLLDCDCPPGTYLKQHCTAKWKTVCAPCPDHYHYTDSWHTSDECL 60
Db 22  ETAPPKYLHYDEETSHQLLDCDCPPGTYLKQHCTAKWKTVCAPCPDHYHYTDSWHTSDECL 81

Qy 61  YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHNATHDNIKROHSSQBOTFQLLKLWKHQN 120
Db 82  YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHNATHDNIKROHSSQBOTFQLLKLWKHQN 141

Qy 121  CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIKROHSSQBOTFQLLKLWKHQN 180
Db 142  CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIKROHSSQBOTFQLLKLWKHQN 201

Qy 181  CEEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERIKROHSSQBOTFQLLKLWKHQN 240
Db 202  CEEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERIKROHSSQBOTFQLLKLWKHQN 261

Qy 241  KAQDIVKKIIQDIDLCEVNSVQRHGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
Db 262  KAQDIVKKIIQDIDLCEVNSVQRHGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy 301  SDQILKLLSLWRKNGDQDTLKGMLHALKHSKTYHPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322  SDQILKLLSLWRKNGDQDTLKGMLHALKHSKTYHPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy 361  QKLFLEMIGNQVQSVKISCL 380
Db 382  QKLFLEMIGNQVQSVKISCL 401
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Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFLGLLTQKGNATHDNI CSGNSESTOKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFLGLLTQKGNATHDNI CSGNSESTOKCGIDVTL 201
Qy 181 CEEAFFRFAVPTKFTPNMWSVLVDNLPCTKVNAESVERIKRQHSSEOTFOLLKLVKHQN 240
Db 202 CEEAFFRFAVPTKFTPNMWSVLVDNLPCTKVNAESVERIKRQHSSEOTFOLLKLVKHQN 261
Qy 241 KAQDIVKKIIQIDILCENSQVORHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACP 300
Db 262 KAQDIVKKIIQIDILCENSQVORHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACP 321
Qy 301 SDQILKLLSLWRIKNGDODTLKGLMHALKHSKTYHFPKTVTOSLKKTIKIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRIKNGDODTLKGLMHALKHSKTYHFPKTVTOSLKKTIKIRFLHSFTMYKLY 381
Qy 361 QKLFLEMIGNQVQSVKISCL 380
Db 382 QKLFLEMIGNQVQSVKISCL 401

RESULT 9

US-10-966-845-4
; Sequence 4, Application US/10966845
; Publication No. US20050143301A1
; GENERAL INFORMATION:
; APPLICANT: Applied Research Systems ARS Holding N.V.
; TITLE OF INVENTION: Use of osteoprotegerin for the treatment and/or prevention of fib
; FILE REFERENCE: disease
; CURRENT APPLICATION NUMBER: US 550 CIP
; CURRENT FILING DATE: 2004-10-15
; PRIOR APPLICATION NUMBER: EP02100364.5
; PRIOR FILING DATE: 2002-04-10
; PRIOR APPLICATION NUMBER: PCT/EP03/50080
; PRIOR FILING DATE: 2003-03-26
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 4
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-966-845-4

Query Match 100.0%; Score 2085; DB 18; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.4e-167;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKCPGTYLKQCTAKWKTVCAPCPDHYHYTDSWHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKCPGTYLKQCTAKWKTVCAPCPDHYHYTDSWHTSDECL 81
Qy 61 YCSPVKELQYVQECNRTHNRVCEKGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 120
Db 82 YCSPVKELQYVQECNRTHNRVCEKGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFLGLLTQKGNATHDNI CSGNSESTOKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFLGLLTQKGNATHDNI CSGNSESTOKCGIDVTL 201
Qy 181 CEEAFFRFAVPTKFTPNMWSVLVDNLPCTKVNAESVERIKRQHSSEOTFOLLKLVKHQN 240
Db 202 CEEAFFRFAVPTKFTPNMWSVLVDNLPCTKVNAESVERIKRQHSSEOTFOLLKLVKHQN 261
Qy 241 KAQDIVKKIIQIDILCENSQVORHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACP 300
Db 262 KAQDIVKKIIQIDILCENSQVORHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACP 321
Qy 301 SDQILKLLSLWRIKNGDODTLKGLMHALKHSKTYHFPKTVTOSLKKTIKIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRIKNGDODTLKGLMHALKHSKTYHFPKTVTOSLKKTIKIRFLHSFTMYKLY 381
Qy 361 QKLFLEMIGNQVQSVKISCL 380

Db 382 QKLFLEMIGNQVQSVKISCL 401
RESULT 10
US-10-762-159-125
; Sequence 125, Application US/10762159
; Publication No. US20050221331A1
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 168
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10762,159
; FILING DATE: 2004-JAN-20
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/132,985
; FILING DATE: 1998-AUG-12
; APPLICATION NUMBER: 08/771,777
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378-CIP
; INFORMATION FOR SEQ ID NO: 125:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-10-762-159-125

Query Match 100.0%; Score 2085; DB 18; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.4e-167;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKCPGTYLKQCTAKWKTVCAPCPDHYHYTDSWHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKCPGTYLKQCTAKWKTVCAPCPDHYHYTDSWHTSDECL 81
Qy 61 YCSPVKELQYVQECNRTHNRVCEKGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 120
Db 82 YCSPVKELQYVQECNRTHNRVCEKGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFLGLLTQKGNATHDNI CSGNSESTOKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFLGLLTQKGNATHDNI CSGNSESTOKCGIDVTL 201
Qy 181 CEEAFFRFAVPTKFTPNMWSVLVDNLPCTKVNAESVERIKRQHSSEOTFOLLKLVKHQN 240
Db 202 CEEAFFRFAVPTKFTPNMWSVLVDNLPCTKVNAESVERIKRQHSSEOTFOLLKLVKHQN 261
Qy 241 KAQDIVKKIIQIDILCENSQVORHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACP 300
Db 262 KAQDIVKKIIQIDILCENSQVORHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACP 321
Qy 301 SDQILKLLSLWRIKNGDODTLKGLMHALKHSKTYHFPKTVTOSLKKTIKIRFLHSFTMYKLY 360

Db 322 SDQILKLLSLWRKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

QY 361 QKLFLEMIGNOVQSVKISCL 380

Db 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 11

US-10-676-358-6

; Sequence 6, Application US/10676358

; Publication No. US20040137074A1

; GENERAL INFORMATION:

; APPLICANT: Nestec SA

; TITLE OF INVENTION: Osteoprotegerin in Milk

; FILE REFERENCE: 88265-6852

; CURRENT APPLICATION NUMBER: US/10/676,358

; PRIOR FILING DATE: 2003-10-02

; PRIOR APPLICATION NUMBER: WO 2002 EP 02912

; PRIOR FILING DATE: 2003-03-15

; PRIOR APPLICATION NUMBER: EP 20010108414

; PRIOR FILING DATE: 2001-04-03

; NUMBER OF SEQ ID NOS: 7

; SOFTWARE: PatentIn version 3.1

; SEQ ID NO 6

; LENGTH: 537

; TYPE: PRT

; ORGANISM: artificial

; FEATURE:

; OTHER INFORMATION: protein sequence including mature OPG

US-10-676-358-6

Query Match 100.0%; Score 2085; DB 16; Length 537;

Best Local Similarity 100.0%; Pred. No. 3.6e-167;

Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPPKYLHYDEETSHQLLCKPCPPGYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60

Db 158 ETPPKYLHYDEETSHQLLCKPCPPGYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 217

QY 61 YCSFVCKELQVVKQECNRTHNRVCECKEGRYLEIFCLKHSRCPGPGVQAGTPERNTV 120

Db 218 YCSFVCKELQVVKQECNRTHNRVCECKEGRYLEIFCLKHSRCPGPGVQAGTPERNTV 277

QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

Db 278 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 337

QY 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERIKRQHSSEQOTFOLLKWKHQN 240

Db 338 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERIKRQHSSEQOTFOLLKWKHQN 397

QY 241 KAQDIVKKIIQDIDLCEVSRHIGHANLTPEQLRSLMESLPGKKVGAEDIEKTIKACKP 300

Db 398 KAQDIVKKIIQDIDLCEVSRHIGHANLTPEQLRSLMESLPGKKVGAEDIEKTIKACKP 457

QY 301 SDQILKLLSLWRKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360

Db 458 SDQILKLLSLWRKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 517

QY 361 QKLFLEMIGNOVQSVKISCL 380

Db 518 QKLFLEMIGNOVQSVKISCL 537

RESULT 12

US-11-058-073-125

; Sequence 125, Application US/11058073

; Publication No. US20050147611A1

; GENERAL INFORMATION:

; APPLICANT: BOYLE, WILLIAM J.

; APPLICANT: LACEY, DAVID LEE

; APPLICANT: CALZONE, FRANK J.

; APPLICANT: CHANG, MING-SHI

; APPLICANT: SENALDI, GIORGIO

; TITLE OF INVENTION: COMBINATION THERAPY FOR CONDITIONS LEADING TO BONE LOSS

; FILE REFERENCE: A-378CIP5C

; CURRENT APPLICATION NUMBER: US/11/058,073

; CURRENT FILING DATE: 2005-02-14

; PRIOR APPLICATION NUMBER: US/09/613,591

; PRIOR FILING DATE: 2000-07-10

; PRIOR APPLICATION NUMBER: US 09/457,647

; PRIOR FILING DATE: 1999-12-09

; PRIOR APPLICATION NUMBER: US 09/350,670

; PRIOR FILING DATE: 1999-07-09

; PRIOR APPLICATION NUMBER: US 08/706,945

; PRIOR FILING DATE: 1996-09-03

; PRIOR APPLICATION NUMBER: US 08/577,788

; PRIOR FILING DATE: 1995-12-22

; NUMBER OF SEQ ID NOS: 178

; SOFTWARE: PatentIn version 3.2

; SEQ ID NO 125

; LENGTH: 401

; TYPE: PRT

; ORGANISM: Homo sapiens

US-11-058-073-125

Query Match 99.8%; Score 2081; DB 20; Length 401;

Best Local Similarity 99.7%; Pred. No. 5.3e-167;

Matches 379; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPPKYLHYDEETSHQLLCKPCPPGYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60

Db 22 ETPPKYLHYDEETSHQLLCKPCPPGYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81

QY 61 YCSFVCKELQVVKQECNRTHNRVCECKEGRYLEIFCLKHSRCPGPGVQAGTPERNTV 120

Db 82 YCSFVCKELQVVKQECNRTHNRVCECKEGRYLEIFCLKHSRCPGPGVQAGTPERNTV 141

QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

QY 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERIKRQHSSEQOTFOLLKWKHQN 240

Db 202 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERIKRQHSSEQOTFOLLKWKHQN 261

QY 241 KAQDIVKKIIQDIDLCEVSRHIGHANLTPEQLRSLMESLPGKKVGAEDIEKTIKACKP 300

Db 262 KAQDIVKKIIQDIDLCEVSRHIGHANLTPEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

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QY 361 QKLFLEMIGNOVQSVKISCL 380

Db 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 13

US-09-062-113-4

; Sequence 4, Application US/09062113

; Patent No. US20020051969A1

; GENERAL INFORMATION:

; APPLICANT: GOTO, Masaaki

; APPLICANT: TSUDA, Eisuke

; APPLICANT: MOCHIZUKI, Shin'ichi

; APPLICANT: YANO, Kazuki

; APPLICANT: KOBAYASHI, Fumie

; APPLICANT: SHIMA, No. US20020051969A1uuyuki

; APPLICANT: YASUDA, Hisataka

; APPLICANT: NAKAGAWA, No. US20020051969A1uaki

; APPLICANT: MORINAGA, Tomonori

; APPLICANT: UEDA, Masatsugu

; APPLICANT: HIGASHIO, Kanji

; TITLE OF INVENTION: No. US20020051969A1el Proteins and Methods for Producing


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/ TITLE OF INVENTION: the Proteins
/ NUMBER OF SEQUENCES: 108
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: Testa, Hurwitz & Thibault
/ STREET: 125 High St.
/ CITY: Boston
/ STATE: MA
/ COUNTRY: USA
/ ZIP: 02110
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: PatentIn Release #1.0, Version #1.30
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/09/062,113
/ FILING DATE: 17-APR-1998
/ CLASSIFICATION:
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: JP 54977/1995
/ FILING DATE: 20-FEB-1995
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: JP 207508/1995
/ FILING DATE: 21-JUL-1995
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: PCT/JP96/00374
/ FILING DATE: 20-FEB-1996
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US 08/915,004
/ FILING DATE: 20-FEB-1996
/ ATTORNEY/AGENT INFORMATION:
/ NAME: MOORE, Ronda P.
/ REGISTRATION NUMBER: 44,244
/ REFERENCE/DOCKET NUMBER: FJN-060DV
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (617) 248-7000
/ TELEFAX: (617) 248-7100
/ INFORMATION FOR SEQ ID NO: 4:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 380 amino acids
/ TYPE: amino acid
/ STRANDEDNESS:
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ FEATURE:
/ NAME/KEY: Protein
/ LOCATION: 1..380
/ OTHER INFORMATION: /note= "(OCIF protein without
/ OTHER INFORMATION: signal peptide)"
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/ US-09-062-113-4
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/ Query Match 99.7%; Score 2079; DB 9; Length 380;
/ Best Local Similarity 99.7%; Pred. No. 7.2e-167;
/ Matches 379; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
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/ Qy 241 KAQDIVVKIIQIDILCENSVDRIHGHANLTFEQLRSLMESLPGKKVGAEDIKTIKACKP 300
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/ Qy 301 SDQILKLLSLWRINKGDDTLKGLMHALKSHKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
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/ Qy 361 OKLFLEMIGNOVQSVKISCL 380
/ Db 361 OKLFLEMIGNOVQSVKISCL 380
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/ RESULT 14
/ US-10-232-858-4
/ Sequence, 4, Application US/10232858
/ Publication No. US20030153048A1
/ GENERAL INFORMATION:
/ APPLICANT: GOTO, Masaaki
/ APPLICANT: TSUDA, Eisuke
/ APPLICANT: MOCHIZUKI, Shin'ichi
/ APPLICANT: YANO, Kazuki
/ APPLICANT: KOBAYASHI, Fumie
/ APPLICANT: SHIMA, No. US20030153048A1uyuki
/ APPLICANT: YASUDA, Hisataka
/ APPLICANT: NAKAGAWA, No. US20030153048A1uaki
/ APPLICANT: MORINAGA, Tomonori
/ APPLICANT: UEDA, Masatsugu
/ APPLICANT: HIGASHIO, Kanji
/ TITLE OF INVENTION: No. US20030153048A1el Proteins and Methods for Producing the Prot
/ FILE REFERENCE: 16991.004
/ CURRENT APPLICATION NUMBER: US/10/232,858
/ CURRENT FILING DATE: 2002-09-03
/ PRIOR APPLICATION NUMBER: PCT/JP96/00374
/ PRIOR FILING DATE: 1996-02-20
/ PRIOR APPLICATION NUMBER: 08/915,004
/ PRIOR FILING DATE: 1997-08-20
/ NUMBER OF SEQ ID NOS: 108
/ SOFTWARE: PatentIn version 3.1
/ SEQ ID NO 4
/ LENGTH: 380
/ TYPE: PRT
/ ORGANISM: Homo sapiens
/
/ US-10-232-858-4
/
/ Query Match 99.7%; Score 2079; DB 14; Length 380;
/ Best Local Similarity 99.7%; Pred. No. 7.2e-167;
/ Matches 379; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
/
/ Qy 1 ETFPKYLHYDEETSHQLLCKDCPPGTYLKQHTAKWKTVCAPCPDHYTDSWHTSDECL 60
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/ Qy 61 YCSPVKELQYVVKQECNRTHNRVCEKGRYLEIEFCLKHSRSCPPGFGVQAGTPERNTV 120
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/ Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
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/ Qy 241 KAQDIVVKIIQIDILCENSVDRIHGHANLTFEQLRSLMESLPGKKVGAEDIKTIKACKP 300
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/ Qy 301 SDQILKLLSLWRINKGDDTLKGLMHALKSHKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
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RESULT 15

US-10-785-109-4
; Sequence 4, Application US/10785109
; Publication No. US20040142426A1
; GENERAL INFORMATION:
; APPLICANT: GOTO, Masaaki
; APPLICANT: TSUDA, Eisuke
; APPLICANT: MOCHIZUKI, Shin'ichi
; APPLICANT: YANO, Kazuki
; APPLICANT: KOBAYASHI, Fumie
; APPLICANT: SHIMA, Nobuyuki
; APPLICANT: YASUDA, Hisataka
; APPLICANT: NAKAGAWA, Nobuaki
; APPLICANT: MORINAGA, Tomonori
; APPLICANT: UEDA, Masatsugu
; APPLICANT: HIGASHIO, Kanji
; TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
; FILE REFERENCE: 16991.017
; CURRENT APPLICATION NUMBER: US/10/785,109
; CURRENT FILING DATE: 2004-02-25
; PRIOR APPLICATION NUMBER: US 10/232,858
; PRIOR FILING DATE: 2002-09-03
; PRIOR APPLICATION NUMBER: US 08/915,004
; PRIOR FILING DATE: 1997-08-20
; PRIOR APPLICATION NUMBER: PCT/JP96/00374
; PRIOR FILING DATE: 1996-02-20
; PRIOR APPLICATION NUMBER: JP 207508/1995
; PRIOR FILING DATE: 1995-07-21
; PRIOR APPLICATION NUMBER: JP 054977/1995
; PRIOR FILING DATE: 1995-02-20
; NUMBER OF SEQ ID NOS: 108
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 4
; LENGTH: 380
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-785-109-4

Query Match 99.7%; Score 2079; DB 16; Length 380;
Best Local Similarity 99.7%; Pred. No. 7.2e-167;
Matches 379; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Db 1 ETPPPKYLHYDEETSHQLLCKDPCPGTYLKHCTAKWKTVCAPCPDHYHDTSDHWTSDDECL 60

Qy 61 YCSPVCKELQYVQECNTHNRVCECKEGRYLEIEFCLKHSRCPFGVVOAGTPERNTV 120
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Db 181 CEEAFFRFAVTKFTPNWLSVLVDNLPCTKYNAESVERIKOHSSEOBTFOQLLKLWKHQN 240

Qy 241 KAQDITVKKIIQDIDL CENSQVORHIGHANLTPEQLRSLMESLP GKVKVGAEDIEKTKACKP 300
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Qy 361 QKLFLEMIGNQVQSVKISCL 380
Db 361 QKLFLEMIGNQVQSVKISCL 380

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OM protein - protein search, using sw model

Run on: November 14, 2005, 22:59:40 ; Search time 30.4475 Seconds
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Title: US-10-762-159-125_COPY_22_401

Perfect score: 2085
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Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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2	2085	100.0	401	3	Sequence 6, Appli
3	2085	100.0	401	3	Sequence 12, Appl
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6	2085	100.0	401	3	Sequence 6, Appli
7	2085	100.0	401	3	Sequence 6, Appli
8	2085	100.0	401	3	Sequence 128, App
9	2085	100.0	401	4	Sequence 56, Appl
10	2085	100.0	401	4	Sequence 2, Appli
11	2079	99.7	401	3	US-09-152-927-1
12	2079	99.7	401	3	US-09-072-993C-1
13	1982	95.1	364	3	US-08-706-945D-142
14	1828	87.7	401	3	Sequence 142, App
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19	1828	87.7	401	3	Sequence 124, App
20	1828	87.7	401	4	US-08-577-788C-2
21	1828	87.7	401	4	US-08-577-788C-55
22	1820	87.3	401	3	US-08-974-022-4
23	1820	87.3	401	3	US-08-042-785A-13
24	1820	87.3	401	3	US-08-795-445A-4
25	1820	87.3	401	3	US-08-795-447A-4
26	1820	87.3	401	3	US-08-974-186-4
27	1820	87.3	401	3	US-08-795-446B-4

28	1820	87.3	401	3	US-08-706-945D-126
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33	952	45.7	208	4	US-08-577-788C-50
34	945	45.3	161	4	US-09-632-277A-3
35	865	41.5	147	3	US-09-527-236A-20
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37	861	41.3	146	4	US-09-523-323-58
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39	781	37.5	174	3	US-08-706-945D-136
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45	440.5	21.1	300	4	US-09-936-019-3

ALIGNMENTS

RESULT 1

US-08-974-022-6
; Sequence 6, Application US/08974022
; Patent No. 6015938
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,022
; FILING DATE: 12-DEC-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-974-022-6

Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 382 QKLFLEMIGNQVQSVKISCL 401

RESULT 2
US-09-042-785A-12
; Sequence 12, Application US/09042785A
; Patent No. 6194151
; GENERAL INFORMATION:
; APPLICANT: Busfield, Samantha J
; TITLE OF INVENTION: NOVEL MOLECULES OF THE TNF RECEPTOR SUPERFAMILY
; NUMBER OF SEQUENCES: 31
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: LAHIVE & COCKFIELD, LLP
; STREET: 28 State Street
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/042.785A
; FILING DATE: 17-MAR-1998
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/938,896
; FILING DATE: 26-SEP-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Mandragouras, Amy E
; REGISTRATION NUMBER: 36,207
; REFERENCE/DOCKET NUMBER: MEI-001CP
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)227-7400
; TELEFAX: (617)742-4214
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FRAGMENT TYPE: internal
US-09-042-785A-12

Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Db 22 ETFPKYLHYDEETSHQLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYHSDWHTSDECL 81
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Db 262 KAQDIVVKKI IQDIDL CENS VQRHIGHANLTPEQLRS LMES L PGKKGVAE D I E K T I K A C K P 321
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Qy 361 QKLFLEMIGNQVQSVKISCL 380
Db 382 QKLFLEMIGNQVQSVKISCL 401

RESULT 3
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; Sequence 6, Application US/08795445A
; Patent No. 6284485
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehaven Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795.445A
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-795-445A-6

Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Db 82 YCSPVKELQVYKQECNRTNHRVCECKEGRYLEIEFCLKHSRCPFGVQAGTPERNTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201
Qy 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKQHSQEQTFQLLKLWKHQN 240
Db 202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKQHSQEQTFQLLKLWKHQN 261
Qy 241 KAQDIVKIIQDIDL CENSQVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
Db 262 KAQDIVKIIQDIDL CENSQVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321
Qy 301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
Qy 361 QKLFLEMIGNOVQSVKISCL 380
Db 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 4
US-08-795-447A-6
; Sequence 6, Application US/08795447A
; Patent No. 6284728
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: One Amgen Center Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91362-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795,447A
; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378D2
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-795-447A-6
Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFPKYLHYDEETSHQLLCKCPGTYLKQCHTAKWKTVCAPCPDHYYTDSWHTSDCL 60
Db 22 ETFPKYLHYDEETSHQLLCKCPGTYLKQCHTAKWKTVCAPCPDHYYTDSWHTSDCL 81

Qy 61 YCSPVKELQVYKQECNRTNHRVCECKEGRYLEIEFCLKHSRCPFGVQAGTPERNTV 120
Db 82 YCSPVKELQVYKQECNRTNHRVCECKEGRYLEIEFCLKHSRCPFGVQAGTPERNTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201
Qy 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKQHSQEQTFQLLKLWKHQN 240
Db 202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKQHSQEQTFQLLKLWKHQN 261
Qy 241 KAQDIVKIIQDIDL CENSQVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
Db 262 KAQDIVKIIQDIDL CENSQVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321
Qy 301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
Qy 361 QKLFLEMIGNOVQSVKISCL 380
Db 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 5
US-08-974-186-6
; Sequence 6, Application US/08974186
; Patent No. 6284740
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPTROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,186
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-974-186-6
Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFPKYLHYDEETSHQLLCKCPGTYLKQCHTAKWKTVCAPCPDHYYTDSWHTSDCL 60
Db 22 ETFPKYLHYDEETSHQLLCKCPGTYLKQCHTAKWKTVCAPCPDHYYTDSWHTSDCL 81

Db 22 ETFPKYLHYDEETSHQLLCKPCPGTYLKQHCCTAKWKTVCAPCPDHYTDSWHTSDECL 81
Qy 61 YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHSRCPGPGVQAGTPERNTV 120
Db 82 YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHSRCPGPGVQAGTPERNTV 141
Qy 121 CKRCPDGGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201
Qy 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKROHSSQBOTQOLLKWKHQN 240
Db 202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKROHSSQBOTQOLLKWKHQN 261
Qy 241 KAQDIVVKKIITODIDLCENSQVORHIGHANLTFEQLRSIMESLPGKKVGAEDIEKTIKACKP 300
Db 262 KAQDIVVKKIITODIDLCENSQVORHIGHANLTFEQLRSIMESLPGKKVGAEDIEKTIKACKP 321
Qy 301 SDQILKLLSLWRINKGQDQDTLKGIMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRINKGQDQDTLKGIMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
Qy 361 QKLFLEMIGNQVQSVKISCL 380
Db 382 QKLFLEMIGNQVQSVKISCL 401

RESULT 6
US-08-795-446B-6
; Sequence 6, Application US/08795446B
; Patent No. 6288032
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehaviiland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA: US/08795.446B
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-795-446B-6
Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 ETFPKYLHYDEETSHQLLCKPCPGTYLKQHCCTAKWKTVCAPCPDHYTDSWHTSDECL 60

Db 22 ETFPKYLHYDEETSHQLLCKPCPGTYLKQHCCTAKWKTVCAPCPDHYTDSWHTSDECL 81
Qy 61 YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHSRCPGPGVQAGTPERNTV 120
Db 82 YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHSRCPGPGVQAGTPERNTV 141
Qy 121 CKRCPDGGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201
Qy 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKROHSSQBOTQOLLKWKHQN 240
Db 202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKROHSSQBOTQOLLKWKHQN 261
Qy 241 KAQDIVVKKIITODIDLCENSQVORHIGHANLTFEQLRSIMESLPGKKVGAEDIEKTIKACKP 300
Db 262 KAQDIVVKKIITODIDLCENSQVORHIGHANLTFEQLRSIMESLPGKKVGAEDIEKTIKACKP 321
Qy 301 SDQILKLLSLWRINKGQDQDTLKGIMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRINKGQDQDTLKGIMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
Qy 361 QKLFLEMIGNQVQSVKISCL 380
Db 382 QKLFLEMIGNQVQSVKISCL 401

RESULT 7
US-08-706-945D-128
; Sequence 128, Application US/08706945D
; Patent No. 6369027
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; FILE REFERENCE: A-378CIP
; CURRENT APPLICATION NUMBER: US/08/706,945D
; CURRENT FILING DATE: 1996-09-03
; PRIOR APPLICATION NUMBER: 08/577,788
; PRIOR FILING DATE: 1995-12-22
; NUMBER OF SEQ ID NOS: 145
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 128
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-706-945D-128
Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 ETFPKYLHYDEETSHQLLCKPCPGTYLKQHCCTAKWKTVCAPCPDHYTDSWHTSDECL 60
Db 22 ETFPKYLHYDEETSHQLLCKPCPGTYLKQHCCTAKWKTVCAPCPDHYTDSWHTSDECL 81
Qy 61 YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHSRCPGPGVQAGTPERNTV 120
Db 82 YCSPVCKELQYVQKQECNRTHNRVCECKEGRYLETFCLKHSRCPGPGVQAGTPERNTV 141
Qy 121 CKRCPDGGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201
Qy 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKROHSSQBOTQOLLKWKHQN 240
Db 202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKROHSSQBOTQOLLKWKHQN 261
Qy 241 KAQDIVVKKIITODIDLCENSQVORHIGHANLTFEQLRSIMESLPGKKVGAEDIEKTIKACKP 300

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Db 262 KAQDIVKKIIQDIDLCEMSVORHIGHANLTPEQLRSLMESLPKKVGAEDIEKTIKACKP 321
Qy 301 SDQILKLLSLWRINKGDDTLKGLMHALKSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRINKGDDTLKGLMHALKSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
Qy 361 QKLFLEMIGNOVQSVKISCL 380
Db 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 8
US-08-577-788C-6
; Sequence 6, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotogerin
; FILE REFERENCE: A-378 Rev
; CURRENT APPLICATION NUMBER: US/08/577,788C
; CURRENT FILING DATE: 1995-12-22
; NUMBER OF SEQ ID NOS: 58
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-577-788C-6

Query Match 100.0%; Score 2085; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFFPKYLHYDEETSHOLLCDKCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
Db 22 ETFFPKYLHYDEETSHOLLCDKCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
Qy 61 YCSPVCKELOVYKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 120
Db 82 YCSPVCKELOVYKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLTQKGNATHDNI CSGNSESTOKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLTQKGNATHDNI CSGNSESTOKCGIDVTL 201
Qy 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKNVNESVERIKRQHSOQETFOQLLKLWKHQN 240
Db 202 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKNVNESVERIKRQHSOQETFOQLLKLWKHQN 261
Qy 241 KAQDIVKKIIQDIDLCEMSVORHIGHANLTPEQLRSLMESLPKKVGAEDIEKTIKACKP 300
Db 262 KAQDIVKKIIQDIDLCEMSVORHIGHANLTPEQLRSLMESLPKKVGAEDIEKTIKACKP 321
Qy 301 SDQILKLLSLWRINKGDDTLKGLMHALKSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRINKGDDTLKGLMHALKSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
Qy 361 QKLFLEMIGNOVQSVKISCL 380
Db 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 10
US-09-064-832-2
; Sequence 2, Application US/09064832
; Patent No. 6790823
; GENERAL INFORMATION:
; APPLICANT: Simonet, Scott
; APPLICANT: Sarosi, Ildiko
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE
; TITLE OF INVENTION: PREVENTION AND TREATMENT OF CARDIOVASCULAR DISEASES
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: One Amgen Center Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/064,832
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
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Db 262 KAQDIVKKIIQDIDLCEMSVORHIGHANLTPEQLRSLMESLPKKVGAEDIEKTIKACKP 321
Qy 301 SDQILKLLSLWRINKGDDTLKGLMHALKSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRINKGDDTLKGLMHALKSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
Qy 361 QKLFLEMIGNOVQSVKISCL 380
Db 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 9
US-08-577-788C-56
; Sequence 56, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotogerin
; FILE REFERENCE: A-378 Rev
; CURRENT APPLICATION NUMBER: US/08/577,788C
; CURRENT FILING DATE: 1995-12-22
; NUMBER OF SEQ ID NOS: 58
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-577-788C-6

Query Match 100.0%; Score 2085; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFFPKYLHYDEETSHOLLCDKCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
Db 22 ETFFPKYLHYDEETSHOLLCDKCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
Qy 61 YCSPVCKELOVYKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 120
Db 82 YCSPVCKELOVYKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLTQKGNATHDNI CSGNSESTOKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLTQKGNATHDNI CSGNSESTOKCGIDVTL 201
Qy 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKNVNESVERIKRQHSOQETFOQLLKLWKHQN 240
Db 202 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKNVNESVERIKRQHSOQETFOQLLKLWKHQN 261
Qy 241 KAQDIVKKIIQDIDLCEMSVORHIGHANLTPEQLRSLMESLPKKVGAEDIEKTIKACKP 300
Db 262 KAQDIVKKIIQDIDLCEMSVORHIGHANLTPEQLRSLMESLPKKVGAEDIEKTIKACKP 321
Qy 301 SDQILKLLSLWRINKGDDTLKGLMHALKSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRINKGDDTLKGLMHALKSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
Qy 361 QKLFLEMIGNOVQSVKISCL 380
Db 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 9
US-08-577-788C-56
; Sequence 56, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank
```


; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-525
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-064-832-2

Query Match 100.0%; Score 2085; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYHSDSHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYHSDSHTSDECL 81

Qy 61 YCSPVCKELOVVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVQAGTPERNTV 120
Db 82 YCSPVCKELOVVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVQAGTPERNTV 141

Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201

Qy 181 CEBAPFRFAVPTKFTPNWLSVLDNLPCTKVNESVERIKRQHSOSQOTFOLLKLWKHON 240
Db 202 CEBAPFRFAVPTKFTPNWLSVLDNLPCTKVNESVERIKRQHSOSQOTFOLLKLWKHON 261

Qy 241 KAQDIVKIIQDIDL CENS VQRHGHANLTFEQLRSIMESLP GKKGVAEDIEKTIKACKP 300
Db 262 KAQDIVKIIQDIDL CENS VQRHGHANLTFEQLRSIMESLP GKKGVAEDIEKTIKACKP 321

Qy 301 SDQILKLLSLWRINKGDDTLKGLMHALKHSTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRINKGDDTLKGLMHALKHSTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy 361 QKLFLEMIGNQVQSVKISCL 380
Db 382 QKLFLEMIGNQVQSVKISCL 401

RESULT 12
US-09-072-993C-1
; Sequence 1, Application US/09072993C
; Patent No. 6346388
; GENERAL INFORMATION:
; APPLICANT: Michael R. Brigham-Burke
; APPLICANT: Peter R. Young
; TITLE OF INVENTION: A METHOD OF IDENTIFYING AGONIST AND
; TITLE OF INVENTION: ANTAGONISTS FOR TUMOR NECROSIS RELATED RECEPTORS TR1 AND TR2
; FILE REFERENCE: GH-50030
; CURRENT APPLICATION NUMBER: US/09/072,993C
; CURRENT FILING DATE: 1998-05-06
; PRIOR APPLICATION NUMBER: 60/055,513
; PRIOR FILING DATE: 1997-08-13
; PRIOR APPLICATION NUMBER: 60/056,980
; PRIOR FILING DATE: 1997-08-26
; PRIOR APPLICATION NUMBER: 60/057,550
; PRIOR FILING DATE: 1997-08-29
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
; LENGTH: 401
; TYPE: PRT
; ORGANISM: HOMO SAPIENS
US-09-072-993C-1

Query Match 99.7%; Score 2079; DB 3; Length 401;
Best Local Similarity 99.7%; Pred. No. 9.1e-186;
Matches 379; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYHSDSHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYHSDSHTSDECL 81

Qy 61 YCSPVCKELOVVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVQAGTPERNTV 120
Db 82 YCSPVCKELOVVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVQAGTPERNTV 141

Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201

Qy 181 CEBAPFRFAVPTKFTPNWLSVLDNLPCTKVNESVERIKRQHSOSQOTFOLLKLWKHON 240
Db 202 CEBAPFRFAVPTKFTPNWLSVLDNLPCTKVNESVERIKRQHSOSQOTFOLLKLWKHON 261

Query Match 99.7%; Score 2079; DB 3; Length 401;
Best Local Similarity 99.7%; Pred. No. 9.1e-186;
Matches 379; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYHSDSHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYHSDSHTSDECL 81

Qy 61 YCSPVCKELOVVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVQAGTPERNTV 120
Db 82 YCSPVCKELOVVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVQAGTPERNTV 141

Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201

Qy 181 CEBAPFRFAVPTKFTPNWLSVLDNLPCTKVNESVERIKRQHSOSQOTFOLLKLWKHON 240
Db 202 CEBAPFRFAVPTKFTPNWLSVLDNLPCTKVNESVERIKRQHSOSQOTFOLLKLWKHON 261

Query Match 99.7%; Score 2079; DB 3; Length 401;
Best Local Similarity 99.7%; Pred. No. 9.1e-186;
Matches 379; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYHSDSHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYHSDSHTSDECL 81

Qy 61 YCSPVCKELOVVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVQAGTPERNTV 120
Db 82 YCSPVCKELOVVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVQAGTPERNTV 141

Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201

Qy 181 CEBAPFRFAVPTKFTPNWLSVLDNLPCTKVNESVERIKRQHSOSQOTFOLLKLWKHON 240
Db 202 CEBAPFRFAVPTKFTPNWLSVLDNLPCTKVNESVERIKRQHSOSQOTFOLLKLWKHON 261

QY 241 KAQDIVKKIIQIDILCENSVDRIHGANITPEQLSLMESLPKVKVGAEDIEKTIKACP 300
DB 262 KDQDIVKKIIQIDILCENSVDRIHGANITPEQLSLMESLPKVKVGAEDIEKTIKACP 321
QY 301 SDQILKLLSLWRIRKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
DB 322 SDQILKLLSLWRIRKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
QY 361 QKLFLEMIGNOVQSVKISCL 380
DB 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 13

US-08-706-945D-142
; Sequence 142, Application US/08706945D
; Patent No. 6369027
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotgerin
; FILE REFERENCE: A-378CIP
; CURRENT APPLICATION NUMBER: US/08/706,945D
; CURRENT FILING DATE: 1996-09-03
; PRIOR APPLICATION NUMBER: 08/577,788
; PRIOR FILING DATE: 1995-12-22
; NUMBER OF SEQ ID NOS: 145
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 142
; LENGTH: 364
; TYPE: PRT
; ORGANISM: Mus musculus
US-08-706-945D-142

Query Match 95.1%; Score 1982; DB 3; Length 364;

Best Local Similarity 95.8%; Pred. No. 9.1e-177; Indels 16; Gaps 1;
Matches 364; Conservative 0; Mismatches 0;

QY 1 ETPPKYLHYDEETSHQLLDCDPCPPGYLKHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
DB 1 ETPPKYLHYDEETSHQLLDCDPCPPGYLKHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
QY 61 YCSPVKELQYVQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 120
DB 61 YCSPVKELQYVQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 120
QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTOKGNATHDNI CSGNSESTQKCGIDVTL 180
DB 121 CKRCPDGFSSNETSSKAPCRKHTN-----DNICSGNSESTQKCGIDVTL 164
QY 181 CEEAFFRFAVPTKTPNWLVSVDNLPCTKVNAESVERIKRQHSQEQTFOLLKLWKHON 240
DB 165 CEEAFFRFAVPTKTPNWLVSVDNLPCTKVNAESVERIKRQHSQEQTFOLLKLWKHON 224
QY 241 KAQDIVKKIIQIDILCENSVDRIHGANITPEQLSLMESLPKVKVGAEDIEKTIKACP 300
DB 225 KAQDIVKKIIQIDILCENSVDRIHGANITPEQLSLMESLPKVKVGAEDIEKTIKACP 284
QY 301 SDQILKLLSLWRIRKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
DB 285 SDQILKLLSLWRIRKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 344
QY 361 QKLFLEMIGNOVQSVKISCL 380
DB 345 QKLFLEMIGNOVQSVKISCL 364

RESULT 14

US-08-974-022-2
; Sequence 2, Application US/08974022
; Patent No. 6015938

; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,022
; FILING DATE: 12-DEC-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-974-022-2

Query Match 87.7%; Score 1828; DB 3; Length 401;

Best Local Similarity 86.3%; Pred. No. 2.5e-162;
Matches 328; Conservative 24; Mismatches 28; Indels 0; Gaps 0;

QY 1 ETPPKYLHYDEETSHQLLDCDPCPPGYLKHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
DB 22 ETPPKYLHYDEETSHQLLDCDPCPPGYLKHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
QY 61 YCSPVKELQYVQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 120
DB 82 YCSPVKELQYVQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGFGVQAGTPERNTV 141
QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTOKGNATHDNI CSGNSESTQKCGIDVTL 180
DB 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTOKGNATHDNI CSGNSESTQKCGIDVTL 201
QY 181 CEEAFFRFAVPTKTPNWLVSVDNLPCTKVNAESVERIKRQHSQEQTFOLLKLWKHON 240
DB 202 CEEAFFRFAVPTKTPNWLVSVDNLPCTKVNAESVERIKRQHSQEQTFOLLKLWKHON 261
QY 241 KAQDIVKKIIQIDILCENSVDRIHGANITPEQLSLMESLPKVKVGAEDIEKTIKACP 300
DB 262 RDQEMVKIIQIDILCENSVDRIHGANITPEQLSLMESLPKVKVGAEDIEKTIKACP 321
QY 301 SDQILKLLSLWRIRKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
DB 322 SEQLLKLKLLSLWRIRKNGDQDTLKGMLHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
QY 361 QKLFLEMIGNOVQSVKISCL 380
DB 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 15

US-08-795-445A-2
; Sequence 2, Application US/08795445A

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; Patent No. 6284485
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795,445A
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-795-445A-2

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Query Match      87.7%; Score 1828; DB 3; Length 401;
Best Local Similarity 86.3%; Pred. No. 2.5e-162;
Matches 328; Conservative 24; Mismatches 28; Indels 0; Gaps 0;

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Db      22  ETFPKYLHYDPTGROLQCDKAPGYLKQHCCTVRKTLCPDYSYDTSWHTSDECV 81

Qy      61  YCSPVKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPFGVQAGTPERNTV 120
Db      82  YCSPVKELQTVQECNRTHNRVCEBEGRYLELEFCLKHSRCPFGVQAGTPERNTV 141

Qy      121  CKRCPDGFSSNETSSKAPCRKHTNCVFGLLLTOKGNATHDNIICSGNSESTQKCGIDVTL 180
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Qy      181  CEEAFFRFAVPTKTPNWLSPVNLPGTKVNAESVERIKROHSSQEQTFOLLKLWKHON 240
Db      202  CEEAFFRFAVPTKIPNWLSPVNLPGTKVNAESVERIKRRHSSQEQTFOLLKLWKHON 261

Qy      241  KAQDIVKIIQDIDLCENSVQRHIGHANLTPEQLRSLMESLPGRKVGAEDEIKTKACKP 300
Db      262  RDQEMVKIIQDIDLCENSVQRHIGHANLTPEQLRSLMESLPGRKISPEIERTRKTKCP 321

Qy      301  SDQILKLLSLNRIKNGDQDTLKLMLKHKSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db      322  SEQLLKLLSLNRIKNGDQDTLKLMLKHKSKTYHFPKTVTQSLKKTIRFLHSFTMYRLY 381

Qy      361  QKLFLEMIGNOVQSVKISCL 380
Db      382  QKLFLEMIGNOVQSVKISCL 401

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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: November 14, 2005, 22:59:40 ; Search time 32.1301 Seconds
(without alignments)
931.659 Million cell updates/sec

Title: US-10-762-159-125

Perfect score: 2198

Sequence: 1 MNKLCCALVFLDISIKWT.....QKLFLEMIGNQVQKISCL 401

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA:*

- 1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep.*
- 2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep.*
- 3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep.*
- 4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep.*
- 5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep.*
- 6: /cgn2_6/ptodata/1/iaa/backfiles.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	2198	100.0	401	3	US-08-974-022-6
2	2198	100.0	401	3	US-08-042-785A-12
3	2198	100.0	401	3	US-08-795-445A-6
4	2198	100.0	401	3	US-08-795-447A-6
5	2198	100.0	401	3	US-08-974-186-6
6	2198	100.0	401	3	US-08-795-446B-6
7	2198	100.0	401	3	US-08-706-945D-128
8	2198	100.0	401	4	US-08-577-788C-6
9	2198	100.0	401	4	US-08-577-788C-56
10	2198	100.0	401	4	US-08-084-832-2
11	2192	99.7	401	3	US-09-153-927-1
12	2192	99.7	401	3	US-09-072-993C-1
13	1982	90.2	364	3	US-08-706-945D-142
14	1906	86.7	401	3	US-08-974-022-2
15	1906	86.7	401	3	US-08-795-445A-2
16	1906	86.7	401	3	US-08-795-447A-2
17	1906	86.7	401	3	US-08-974-186-2
18	1906	86.7	401	3	US-08-795-446B-2
19	1906	86.7	401	3	US-08-706-945D-124
20	1906	86.7	401	4	US-08-577-788C-2
21	1906	86.7	401	4	US-08-577-788C-55
22	1892	86.1	401	3	US-08-974-022-4
23	1892	86.1	401	3	US-08-042-785A-13
24	1892	86.1	401	3	US-08-795-445A-4
25	1892	86.1	401	3	US-08-795-447A-4
26	1892	86.1	401	3	US-08-974-186-4
27	1892	86.1	401	3	US-08-795-446B-4

28	1892	86.1	401	3	US-08-706-945D-126
29	1892	86.1	401	4	US-08-577-788C-4
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31	1720	78.3	364	3	US-08-706-945D-141
32	1644	74.8	293	4	US-09-896-096A-18
33	1030	46.9	208	4	US-08-577-788C-50
34	945	43.0	161	4	US-09-632-277A-3
35	865	39.4	147	3	US-09-527-236A-20
36	865	39.4	147	4	US-09-756-854-20
37	861	39.2	146	4	US-09-523-323-58
38	859	39.1	174	3	US-08-706-945D-136
39	827	37.6	139	3	US-08-706-945D-130
40	444	20.2	300	2	US-08-794-796-2
41	444	20.2	300	4	US-09-632-277A-2
42	444	20.2	300	4	US-09-523-323-52
43	444	20.2	300	4	US-09-896-096A-1
44	444	20.2	300	4	US-09-936-019-3
45	444	20.2	333	4	US-09-949-016-7678

ALIGNMENTS

RESULT 1
US-08-974-022-6
; Sequence 6, Application US/08974022
; Patent No. 6015938
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,022
; FILING DATE: 12-DEC-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-974-022-6

Query Match 100.0%; Score 2198; DB 3; Length 401;

Best Local Similarity 100.0%; Pred. No. 2.8e-196;

Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 1 MNKLCCALVFLDISIKWTQTTPPKYLYHDETSKQLCDKCPPTYLKQHCTAKWKT 60

Qy 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQKCNRTHRVCECKEGRYLEIFELCK 120

Sequence 126, Appl
Sequence 4, Appl
Sequence 54, Appl
Sequence 141, Appl
Sequence 18, Appl
Sequence 50, Appl
Sequence 3, Appl
Sequence 20, Appl
Sequence 20, Appl
Sequence 58, Appl
Sequence 136, Appl
Sequence 130, Appl
Sequence 2, Appl
Sequence 2, Appl
Sequence 52, Appl
Sequence 1, Appl
Sequence 3, Appl
Sequence 7678, Ap

Db 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNTRHNRVCECKEGRYLEIEFCLK 120
Qy 121 HRSPPGFGVQAGTPERNTVKRCPCDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSPPGFGVQAGTPERNTVKRCPCDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSGNSESTOKCGIDVTLCBEAFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERI 240
Db 181 HDNICSGNSESTOKCGIDVTLCBEAFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERI 240
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Db 241 KROHSSOEQTFOQLKLWKHQNKAQDIVKKIIQIDILCENSQVQRHIGHANLTFEQLRSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKLHMHALKHSKTYHPFKT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKLHMHALKHSKTYHPFKT 360
Qy 361 VTOSLKKTIIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTOSLKKTIIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 2
US-09-042-785A-12
; Sequence 12, Application US/09042785A
; Patent No. 6194151
; GENERAL INFORMATION:
; APPLICANT: Busfield, Samantha J
; TITLE OF INVENTION: NOVEL MOLECULES OF THE TNF RECEPTOR SUPERFAMILY
; TITLE OF INVENTION: AND USES THEREFOR
; NUMBER OF SEQUENCES: 31
; CORRESPONDENCE ADDRESSES:
; ADDRESSEE: LAHIVE & COCKFIELD, LLP
; STREET: 28 State Street
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/042,785A
; FILING DATE: 17-MAR-1998
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/938,896
; FILING DATE: 26-SEP-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Mandragouras, Amy E
; REGISTRATION NUMBER: 36,207
; REFERENCE/DOCKET NUMBER: MEI-001CP
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)227-7400
; TELEFAX: (617)742-4214
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FRAGMENT TYPE: internal
US-09-042-785A-12

Query Match 100.0%; Score 2198; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-196;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Db 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
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Db 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNTRHNRVCECKEGRYLEIEFCLK 120
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Db 121 HRSPPGFGVQAGTPERNTVKRCPCDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSGNSESTOKCGIDVTLCBEAFRFAVPTKFTPNWLSVLVDNLPCTKVNAESVERI 240
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Db 241 KROHSSOEQTFOQLKLWKHQNKAQDIVKKIIQIDILCENSQVQRHIGHANLTFEQLRSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKLHMHALKHSKTYHPFKT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKLHMHALKHSKTYHPFKT 360
Qy 361 VTOSLKKTIIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTOSLKKTIIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 3
US-08-795-445A-6
; Sequence 6, Application US/08795445A
; Patent No. 6284485
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESSES:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795,445A
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-795-445A-6

Query Match 100.0%; Score 2198; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-196;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60

Db 1 MNKLLCCALVFLDISIKWTTQETPPKYLHYDEETSHQLLCKDCPPGYLKHCHTAKWKT 60
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Db 61 VCAPCPDHYTDSMHTSDECLYCSVCKELQVYKQECNRTNHRVCECKEGRYLEIEFCLK 120
Qy 121 HRSPPGPGVQAGTTPERTVCKPCDGFNSETSSKAPCRKHTNCSVFGLLLTOKGNAT 180
Db 121 HRSPPGPGVQAGTTPERTVCKPCDGFNSETSSKAPCRKHTNCSVFGLLLTOKGNAT 180
Qy 181 HDNCSGNSESTQKCGIDVTLCCEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERI 240
Db 181 HDNCSGNSESTQKCGIDVTLCCEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERI 240
Qy 241 KRQSSQBTQFLLKWKHQKQAQDIVKKIIOIDIDLCSNSVORHIGHANLTFEQLRSLME 300
Db 241 KRQSSQBTQFLLKWKHQKQAQDIVKKIIOIDIDLCSNSVORHIGHANLTFEQLRSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRINKGDQDTLKGLMHALKHSKTYHFPKT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRINKGDQDTLKGLMHALKHSKTYHFPKT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 4
US-08-795-447A-6
; Sequence 6, Application US/08795447A
; Patent No. 6284728
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: One Amgen Center Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91362-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795.447A
; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378D2
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-795-447A-6

Query Match 100.0%; Score 2198; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-196;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MNKLLCCALVFLDISIKWTTQETPPKYLHYDEETSHQLLCKDCPPGYLKHCHTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPKYLHYDEETSHQLLCKDCPPGYLKHCHTAKWKT 60

Qy 61 VCAPCPDHYTDSMHTSDECLYCSVCKELQVYKQECNRTNHRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSMHTSDECLYCSVCKELQVYKQECNRTNHRVCECKEGRYLEIEFCLK 120
Qy 121 HRSPPGPGVQAGTTPERTVCKPCDGFNSETSSKAPCRKHTNCSVFGLLLTOKGNAT 180
Db 121 HRSPPGPGVQAGTTPERTVCKPCDGFNSETSSKAPCRKHTNCSVFGLLLTOKGNAT 180
Qy 181 HDNCSGNSESTQKCGIDVTLCCEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERI 240
Db 181 HDNCSGNSESTQKCGIDVTLCCEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERI 240
Qy 241 KRQSSQBTQFLLKWKHQKQAQDIVKKIIOIDIDLCSNSVORHIGHANLTFEQLRSLME 300
Db 241 KRQSSQBTQFLLKWKHQKQAQDIVKKIIOIDIDLCSNSVORHIGHANLTFEQLRSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRINKGDQDTLKGLMHALKHSKTYHFPKT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRINKGDQDTLKGLMHALKHSKTYHFPKT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 5
US-08-974-186-6
; Sequence 6, Application US/08974186
; Patent No. 6284740
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPTROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974.186
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-974-186-6

Query Match 100.0%; Score 2198; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-196;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MNKLLCCALVFLDISIKWTTQETPPKYLHYDEETSHQLLCKDCPPGYLKHCHTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPKYLHYDEETSHQLLCKDCPPGYLKHCHTAKWKT 60

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Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEBETSHQLLCKDKCPPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 120
Qy 121 HRSPPGPGVGVQAGTPERNTVCKRCPDGFPSNETSSKAPCKRHTNCSVFGLLLTOKGNAT 180
Db 121 HRSPPGPGVGVQAGTPERNTVCKRCPDGFPSNETSSKAPCKRHTNCSVFGLLLTOKGNAT 180
Qy 181 HDNICSNSSESTKCGIDVTLCEAEFRFAVPTKFTPNMWSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSNSSESTKCGIDVTLCEAEFRFAVPTKFTPNMWSVLVDNLPGTKVNAESVERI 240
Qy 241 KQHSSOEQTFOLLKWKHQKQADIVKIIQIDILCENSQRHIGHANITFFQRLSLME 300
Db 241 KQHSSOEQTFOLLKWKHQKQADIVKIIQIDILCENSQRHIGHANITFFQRLSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGLMHALKHSHKTYHPKPT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGLMHALKHSHKTYHPKPT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
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```
RESULT 6
US-08-795-446B-6
; Sequence 6, Application US/08795446B
; Patent No. 6288032
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA: US/08/795,446B
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-795-446B-6
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Query Match 100.0%; Score 2198; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-196;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEBETSHQLLCKDKCPPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEBETSHQLLCKDKCPPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLK 120
Qy 121 HRSPPGPGVGVQAGTPERNTVCKRCPDGFPSNETSSKAPCKRHTNCSVFGLLLTOKGNAT 180
Db 121 HRSPPGPGVGVQAGTPERNTVCKRCPDGFPSNETSSKAPCKRHTNCSVFGLLLTOKGNAT 180
Qy 181 HDNICSNSSESTKCGIDVTLCEAEFRFAVPTKFTPNMWSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSNSSESTKCGIDVTLCEAEFRFAVPTKFTPNMWSVLVDNLPGTKVNAESVERI 240
Qy 241 KQHSSOEQTFOLLKWKHQKQADIVKIIQIDILCENSQRHIGHANITFFQRLSLME 300
Db 241 KQHSSOEQTFOLLKWKHQKQADIVKIIQIDILCENSQRHIGHANITFFQRLSLME 300
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Db 241 KRQSSQEQTFQLLKWKHQNKAQDI VKKI IQIDILCENS VQRHIGHANLT FEQLRSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWR INKNGDQDTL KGLMHALKHSKTYHPPKT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWR INKNGDQDTL KGLMHALKHSKTYHPPKT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401

RESULT 8

US-08-577-788C-6
; Sequence 6, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; FILE REFERENCE: A-378 Rev
; CURRENT APPLICATION NUMBER: US/08/577.788C
; CURRENT FILING DATE: 1995-12-22
; NUMBER OF SEQ ID NOS: 58
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-577-788C-6

Query Match 100.0%; Score 2198; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-196;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDEESTSHQLLDCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDEESTSHQLLDCDKCPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNRTHNRVCECKEGRYLIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNRTHNRVCECKEGRYLIEFCLK 120
Qy 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETS SKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETS SKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSGNSESTQCGIDVTLCCEAFRRFAVPTKFTPNWLSVLDNLPGTKVNAESVERI 240
Db 181 HDNICSGNSESTQCGIDVTLCCEAFRRFAVPTKFTPNWLSVLDNLPGTKVNAESVERI 240
Qy 241 KRQSSQEQTFQLLKWKHQNKAQDI VKKI IQIDILCENS VQRHIGHANLT FEQLRSLME 300
Db 241 KRQSSQEQTFQLLKWKHQNKAQDI VKKI IQIDILCENS VQRHIGHANLT FEQLRSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWR INKNGDQDTL KGLMHALKHSKTYHPPKT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWR INKNGDQDTL KGLMHALKHSKTYHPPKT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401

RESULT 9

US-08-577-788C-56
; Sequence 56, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank

; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; FILE REFERENCE: A-378 Rev
; CURRENT APPLICATION NUMBER: US/08/577.788C
; CURRENT FILING DATE: 1995-12-22
; NUMBER OF SEQ ID NOS: 58
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 56
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-577-788C-56

Query Match 100.0%; Score 2198; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-196;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDEESTSHQLLDCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHDEESTSHQLLDCDKCPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNRTHNRVCECKEGRYLIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNRTHNRVCECKEGRYLIEFCLK 120
Qy 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETS SKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETS SKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSGNSESTQCGIDVTLCCEAFRRFAVPTKFTPNWLSVLDNLPGTKVNAESVERI 240
Db 181 HDNICSGNSESTQCGIDVTLCCEAFRRFAVPTKFTPNWLSVLDNLPGTKVNAESVERI 240
Qy 241 KRQSSQEQTFQLLKWKHQNKAQDI VKKI IQIDILCENS VQRHIGHANLT FEQLRSLME 300
Db 241 KRQSSQEQTFQLLKWKHQNKAQDI VKKI IQIDILCENS VQRHIGHANLT FEQLRSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWR INKNGDQDTL KGLMHALKHSKTYHPPKT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWR INKNGDQDTL KGLMHALKHSKTYHPPKT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401

RESULT 10

US-09-064-832-2
; Sequence 2, Application US/09064832
; Patent No. 6790823
; GENERAL INFORMATION:
; APPLICANT: Simonet, Scott
; APPLICANT: Satosi, Ildiko
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE
; PREVENTION AND TREATMENT OF CARDIOVASCULAR DISEASES
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESS: Amgen Inc.
; STREET: One Amgen Center Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/064,832
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:

```
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-525
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
;   LENGTH: 401 amino acids
;   TYPE: amino acid
;   TOPOLOGY: linear
;   MOLECULE TYPE: protein
US-09-064-832-2

Query Match      100.0%; Score 2198; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-196;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLK 120
Qy 121 HRSPPGFGVVGAGTPERNTVCKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSPPGFGVVGAGTPERNTVCKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSNGSESTQKCGIDVTLCCEAFAFRFAVPTKFTPNMLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSNGSESTQKCGIDVTLCCEAFAFRFAVPTKFTPNMLSVLVDNLPGTKVNAESVERI 240
Qy 241 KROHSSQEQTFOLLKWLKHQNKADIVKKLIQDIDLCEMSVQRHIGHANLTFEQLSLME 300
Db 241 KROHSSQEQTFOLLKWLKHQNKADIVKKLIQDIDLCEMSVQRHIGHANLTFEQLSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACPKSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPKSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 12
US-09-072-993C-1
; Sequence 1, Application US/09072993C
; Patent No. 6346388
; GENERAL INFORMATION:
; APPLICANT: Michael R. Brigham-Burke
; APPLICANT: Peter R. Young
; TITLE OF INVENTION: A METHOD OF IDENTIFYING AGONIST AND
; TITLE OF INVENTION: ANTAGONISTS FOR TUMOR NECROSIS RELATED RECEPTORS TR1 AND TR2
; FILE REFERENCE: GH-50030
; CURRENT APPLICATION NUMBER: US/09/072,993C
; CURRENT FILING DATE: 1998-05-06
; PRIOR APPLICATION NUMBER: 60/055,513
; PRIOR FILING DATE: 1997-08-13
; PRIOR APPLICATION NUMBER: 60/056,980
; PRIOR FILING DATE: 1997-08-26
; PRIOR APPLICATION NUMBER: 60/057,550
; PRIOR FILING DATE: 1997-08-29
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
; LENGTH: 401
; TYPE: PRT
; ORGANISM: HOMO SAPIENS
US-09-072-993C-1

Query Match      99.7%; Score 2192; DB 3; Length 401;
Best Local Similarity 99.8%; Pred. No. 1e-195;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLK 120
Qy 121 HRSPPGFGVVGAGTPERNTVCKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSPPGFGVVGAGTPERNTVCKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSNGSESTQKCGIDVTLCCEAFAFRFAVPTKFTPNMLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSNGSESTQKCGIDVTLCCEAFAFRFAVPTKFTPNMLSVLVDNLPGTKVNAESVERI 240
Qy 241 KROHSSQEQTFOLLKWLKHQNKADIVKKLIQDIDLCEMSVQRHIGHANLTFEQLSLME 300
Db 241 KROHSSQEQTFOLLKWLKHQNKADIVKKLIQDIDLCEMSVQRHIGHANLTFEQLSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACPKSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPKSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 11
US-09-153-927-1
; Sequence 1, Application US/09153927A
; Patent No. 6297022
; GENERAL INFORMATION:
; APPLICANT: McDonnell, Peter C.
; APPLICANT: Young, Peter R.
; APPLICANT: Zou, Jun
; TITLE OF INVENTION: A Method of Identifying Agonists and
; TITLE OF INVENTION: Antagonists for Tumor Necrosis Related Receptors TR1, TR3
; TITLE OF INVENTION: and TR5
; FILE REFERENCE: GH50031
; CURRENT APPLICATION NUMBER: US/09/153,927A
; CURRENT FILING DATE: 1998-09-16
; EARLIER APPLICATION NUMBER: 60/061,334
; EARLIER FILING DATE: 1997-10-08
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Human
US-09-153-927-1

Query Match      99.7%; Score 2192; DB 3; Length 401;
Best Local Similarity 99.8%; Pred. No. 1e-195;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
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Qy 241 KROHSSQSBTFQLLKLWKHONKAQDIVKKIIQIDILCENSQVORHIGHANLTFEOLRSIME 300
Db 241 KROHSSQSBTFQLLKLWKHONKAQDIVKKIIQIDILCENSQVORHIGHANLTFEOLRSIME 300
Qy 301 SLPGKVGAEIDIEKTIKAKPSDQILKLLSLWRINKNGDQDQTLKGLMHALKHSKTYHPPKT 360
Db 301 SLPGKVGAEIDIEKTIKAKPSDQILKLLSLWRINKNGDQDQTLKGLMHALKHSKTYHPPKT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYOKLFLEMIGNOVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYOKLFLEMIGNOVQSVKISCL 401

RESULT 13

US-08-706-945D-142

; Sequence 142, Application US/08706945D

; Patent No. 6369027

; GENERAL INFORMATION:

; APPLICANT: Boyle, William

; APPLICANT: Lacey, David

; APPLICANT: Calzone, Frank

; APPLICANT: Chang, Ming-Shi

; TITLE OF INVENTION: Osteoprotegerin

; FILE REFERENCE: A-378CIP

; CURRENT APPLICATION NUMBER: US/08/706,945D

; PRIOR FILING DATE: 1996-09-03

; PRIOR APPLICATION NUMBER: 08/577,788

; NUMBER OF SEQ ID NOS: 145

; SOFTWARE: PatentIn version 3.1

; SEQ ID NO 142

; LENGTH: 364

; TYPE: PRT

; ORGANISM: Mus musculus

; US-08-706-945D-142

Query Match 90.2%; Score 1982; DB 3; Length 364;
Best Local Similarity 95.8%; Pred. No. 3.2e-176;
Matches 364; Conservative 0; Mismatches 0; Indels 16; Gaps 1;

Qy 22 ETFFPKYLHYDEETSHQLLDCDPCPGTYLKQHCTAKWTVCAPCPDHYTDSWHTSDECL 81
Db 1 ETFFPKYLHYDEETSHQLLDCDPCPGTYLKQHCTAKWTVCAPCPDHYTDSWHTSDECL 60
Qy 82 YCSPVKELQYVQECNRTNHRVCECKEGRYLEIEFCLKHRSCPPGFGVQAGTPERTV 141
Db 61 YCSPVKELQYVQECNRTNHRVCECKEGRYLEIEFCLKHRSCPPGFGVQAGTPERTV 120
Qy 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNICSGNSESTQKCGIDVTL 201
Db 121 CKRCPDGFSSNETSSKAPCRKHTN-----DNICSGNSESTQKCGIDVTL 164
Qy 202 CEEAFFFAVPTKFTPNWLSVLVDNLPQTKVNAESVERIKROHSSQSBTFQLLKLWKHON 261
Db 165 CEEAFFFAVPTKFTPNWLSVLVDNLPQTKVNAESVERIKROHSSQSBTFQLLKLWKHON 224
Qy 262 KAQDIVKKIIQIDILCENSQVORHIGHANLTFEOLRSIMESLPGKVGAEIDIEKTIKACP 321
Db 225 KAQDIVKKIIQIDILCENSQVORHIGHANLTFEOLRSIMESLPGKVGAEIDIEKTIKACP 284
Qy 322 SDQILKLLSLWRINKNGDQDQTLKGLMHALKHSKTYHPPKTQSLKKTIRFLHSFTMYKLY 381
Db 285 SDQILKLLSLWRINKNGDQDQTLKGLMHALKHSKTYHPPKTQSLKKTIRFLHSFTMYKLY 344
Qy 382 QKLFLEMIGNOVQSVKISCL 401
Db 345 QKLFLEMIGNOVQSVKISCL 364

RESULT 14

US-08-974-022-2

; Sequence 2, Application US/08974022

; Patent No. 6015938

; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPTROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA: US/08/974,022
; APPLICATION NUMBER: 08/577,788
; FILING DATE: 12-DEC-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-974-022-2

Query Match 86.7%; Score 1906; DB 3; Length 401;
Best Local Similarity 86.1%; Pred. No. 4.4e-169;
Matches 346; Conservative 25; Mismatches 29; Indels 2; Gaps 2;

Qy 1 MNKLCCA-LVFIDISIKWTTQETFPFKYLHYDEETSHQLLDCDPCPGTYLKQHCTAKWK 59
Db 1 MNKLCCA-LVFIDISIKWTTQETFPFKYLHYDEETSHQLLDCDPCPGTYLKQHCTAKWK 59
Qy 60 TVCAPCPDHYTDSWHTSDECLYCSPVKELQYVQECNRTNHRVCECKEGRYLEIEFCL 119
Db 60 TVCAPCPDHYTDSWHTSDECLYCSPVKELQYVQECNRTNHRVCECKEGRYLEIEFCL 119
Qy 120 KHRSCPPGFGVQAGTPERTVCKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKQNA 179
Db 120 KHRSCPPGFGVQAGTPERTVCKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKQNA 179
Qy 180 THDNICSGNSESTQKCGIDVTLCEEAFREAVPTKFTPNWLSVLVDNLPQTKVNAESVER 239
Db 180 THDNICSGNSESTQKCGIDVTLCEEAFREAVPTKFTPNWLSVLVDNLPQTKVNAESVER 239
Qy 240 IKRQHSQSBTFQLLKLWKHONKAQDIVKKIIQIDILCENSQVORHIGHANLTFEOLRSIM 299
Db 240 IKRQHSQSBTFQLLKLWKHONKAQDIVKKIIQIDILCENSQVORHIGHANLTFEOLRSIM 299
Qy 300 ESLLPGKVGAEIDIEKTIKACKPSDQILKLLSLWRINKNGDQDQTLKGLMHALKHSKTYHPPK 359
Db 300 ESLLPGKVGAEIDIEKTIKACKPSDQILKLLSLWRINKNGDQDQTLKGLMHALKHSKTYHPPK 359
Qy 360 TVTQSLKKTIRFLHSFTMYKLYOKLFLEMIGNOVQSVKISCL 401
Db 360 TVTQSLKKTIRFLHSFTMYKLYOKLFLEMIGNOVQSVKISCL 401

RESULT 15

US-08-795-445A-2

; Sequence 2, Application US/08795445A

; Patent No. 6284485
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795,445A
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-795-445A-2

Query Match 86.7%; Score 1906; DB 3; Length 401;
Best Local Similarity 86.1%; Pred. No. 4.4e-159;
Matches 346; Conservative 25; Mismatches 29; Indels 2; Gaps 2;

Qy 1 MNKLLCCA-LVFELDISIKWTQETFPFKYLHYDEETSHQLCDKCPGTYLKQHCTAKWK 59
Db 1 MNKWLCCALLVFLDI-IEWTTQETFPFKYLHYDPETGRQLCDKCAPGTYLKQHCTVRRK 59

Qy 60 TVCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNTHRVCECKEGRYLEIEFCL 119
Db 60 TLCVPCPDYSYDTSWHTSDECVYCSVPCKELQTVQECNTHRVCECKEGRYLEIEFCL 119

Qy 120 KHRSCPPGFGVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGN 179
Db 120 KHRSCPPGLGVLAGTPEPNTVCKRCPDGFPSGETSSKAPCRKHTNCSVGLLLIQKGN 179

Qy 180 THDNICSGNSESTQKCGIDVTLCCEAFRRFAVPTKFTPNWLSVLVDNLPGTKVNAESVER 239
Db 180 THDNVCSGNREATQNCIGDVTLCCEAFRRFAVPTKIIPNMLSVLVDSLPGTKVNAESVER 239

Qy 240 IKRQHSQEQTFQLLKWQKQKADIVKKIIQDIDLCENSVQRHGHANLTFEQLRSLM 299
Db 240 IKRRHSQEQTFQLLKWQKQKQNDQEMVKKIIQDIDLCESSVQRHGHANLTFEQLRSLM 299

Qy 300 ESLPGKVGADIEKTKKACPSQIILKLSLWRIKNGDDDTLGLMHALKHSHKTYHFPK 359
Db 300 ESLPGKISDEIBETRTKCPSEQLKLSLWRIKNGDDDTLGLMYALKHLYKAYHFPK 359

Qy 360 TVTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 360 TVTHSLAKTIRFLHSFTMYRLYQKLFLEMIGNQVQSVKISCL 401

Search completed: November 14, 2005, 23:19:13
Job time : 33.1301 secs

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OM protein - protein search, using sw model

Run on: November 14, 2005, 23:07:15 ; Search time 115.585 Seconds
(without alignments)
1451.594 Million cell updates/sec

Title: US-10-762-159-125

Perfect score: 2198

Sequence: 1 MNKLCCALVFLDISIKWT.....QKLFLEMIGNQVQSVKISCL 401

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1867879 seqs, 418409474 residues

Total number of hits satisfying chosen parameters: 1867879

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA:*

- 1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep.*
- 2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep.*
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- 6: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep.*
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- 8: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep.*
- 9: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep.*
- 10: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep.*
- 11: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep.*
- 12: /cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep.*
- 13: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep.*
- 14: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep.*
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- 16: /cgn2_6/ptodata/1/pubpaa/US10D_PUBCOMB.pep.*
- 17: /cgn2_6/ptodata/1/pubpaa/US10E_PUBCOMB.pep.*
- 18: /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep.*
- 19: /cgn2_6/ptodata/1/pubpaa/US11A_PUBCOMB.pep.*
- 20: /cgn2_6/ptodata/1/pubpaa/US11_NEW_PUB.pep.*
- 21: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep.*
- 22: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query	Score	Match	Length	DB ID	Description
1	2198	100.0	401	10	US-09-405-032-125	Sequence 125, App
2	2198	100.0	401	14	US-10-151-071-8	Sequence 8, Appli
3	2198	100.0	401	16	US-10-467-243-2	Sequence 2, Appli
4	2198	100.0	401	17	US-10-129-595-3	Sequence 1, Appli
5	2198	100.0	401	18	US-10-966-845-4	Sequence 4, Appli
6	2198	100.0	401	18	US-10-762-159-125	Sequence 125, App
7	2198	99.8	401	20	US-11-058-073-125	Sequence 125, App
8	2193	99.8	400	14	US-10-142-658-2	Sequence 2, Appli
9	2192	99.7	401	13	US-10-066-209-1	Sequence 1, Appli
10	2192	99.7	401	13	US-10-105-934-2	Sequence 2, Appli
11	2192	99.7	401	13	US-10-164-592-2	Sequence 2, Appli

12	2192	99.7	401	14	US-10-044-674-3	Sequence 3, Appli
13	2192	99.7	401	14	US-10-322-673-5	Sequence 5, Appli
14	2192	99.7	401	14	US-10-139-785-5	Sequence 5, Appli
15	2192	99.7	401	17	US-10-895-676-2	Sequence 2, Appli
16	2192	99.7	401	18	US-10-986-046-5	Sequence 5, Appli
17	2192	99.7	401	18	US-10-986-047-5	Sequence 5, Appli
18	2192	99.7	401	18	US-10-966-845-2	Sequence 2, Appli
19	2192	99.7	401	18	US-10-775-204-528	Sequence 528, App
20	2192	99.7	401	18	US-10-775-204-529	Sequence 529, App
21	2192	99.7	401	18	US-10-775-204-542	Sequence 542, App
22	2192	99.7	401	18	US-10-775-204-1238	Sequence 1238, Ap
23	2192	99.7	401	18	US-10-775-204-1239	Sequence 1239, Ap
24	2192	99.7	401	18	US-10-775-204-1240	Sequence 1240, Ap
25	2192	99.7	401	18	US-10-775-204-1241	Sequence 1241, Ap
26	2192	99.7	401	18	US-10-775-204-1242	Sequence 1242, Ap
27	2192	99.7	401	18	US-10-775-204-1243	Sequence 1243, Ap
28	2192	99.7	401	18	US-10-775-204-1244	Sequence 1244, Ap
29	2192	99.7	401	18	US-10-775-204-1245	Sequence 1245, Ap
30	2192	99.7	401	18	US-10-981-465-5	Sequence 5, Appli
31	2192	99.7	401	18	US-10-981-621-5	Sequence 5, Appli
32	2192	99.7	401	18	US-10-981-673-5	Sequence 5, Appli
33	2192	99.7	401	18	US-10-981-691-5	Sequence 5, Appli
34	2192	99.7	401	18	US-10-986-349-5	Sequence 5, Appli
35	2192	99.7	401	18	US-10-986-376-5	Sequence 5, Appli
36	2192	99.7	986	18	US-10-775-204-312	Sequence 312, App
37	2192	99.7	986	18	US-10-775-204-326	Sequence 326, App
38	2187	99.5	401	9	US-09-062-113-5	Sequence 5, Appli
39	2187	99.5	401	14	US-10-183-091-1	Sequence 1, Appli
40	2187	99.5	401	14	US-10-364-045-1	Sequence 1, Appli
41	2187	99.5	401	14	US-10-232-858-5	Sequence 5, Appli
42	2187	99.5	401	15	US-10-377-076-1	Sequence 1, Appli
43	2187	99.5	401	16	US-10-785-109-5	Sequence 5, Appli
44	2187	99.5	401	16	US-10-785-114-5	Sequence 5, Appli
45	2187	99.5	401	17	US-10-929-958-5	Sequence 5, Appli

ALIGNMENTS

RESULT 1

US-09-405-032-125
; Sequence 125, Application US/09405032
; Publication No US20030207827A1
; GENERAL INFORMATION:
; APPLICANT: Amgen Inc.
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 168
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/405,032
; FILING DATE: 24-Sep-1999
; CLASSIFICATION: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378-CIP2
; INFORMATION FOR SEQ ID NO: 125:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 125:

US-09-405-032-125

Query Match 100.0%; Score 2198; DB 10; Length 401;
Best Local Similarity 100.0%; Pred. No. 1.3e-175;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60

Qy 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNRTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTOKGNAT 180
Db 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTOKGNAT 180

Qy 181 HDNICSGNSESTQCGIDVTLCEBAFFRAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSGNSESTQCGIDVTLCEBAFFRAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy 241 KROHSSOEQTFOLLKWKHONKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSIME 300
Db 241 KROHSSOEQTFOLLKWKHONKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSIME 300

Qy 301 SLPGKKVGAEDIEKTIKACPKSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPKSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360

Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 2
US-10-151-071-8
; Sequence 8, Application US/10151071
; Publication No. US20030017151A1
; GENERAL INFORMATION:
; APPLICANT: DOUGALL, William
; APPLICANT: ANDERSON, Dirk
; TITLE OF INVENTION: THERAPEUTIC USES OF RANK ANTAGONISTS
; FILE REFERENCE: 3277-A
; CURRENT APPLICATION NUMBER: US/10/151,071
; PRIOR FILING DATE: 2001-05-17
; PRIOR FILING DATE: 2001-05-17
; NUMBER OF SEQ ID NOS: 10
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 8
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-151-071-8

Query Match 100.0%; Score 2198; DB 14; Length 401;
Best Local Similarity 100.0%; Pred. No. 1.3e-175;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60

Qy 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNRTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTOKGNAT 180
Db 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTOKGNAT 180

Qy 181 HDNICSGNSESTQCGIDVTLCEBAFFRAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Db 181 HDNICSGNSESTQCGIDVTLCEBAFFRAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy 241 KROHSSOEQTFOLLKWKHONKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSIME 300
Db 241 KROHSSOEQTFOLLKWKHONKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSIME 300

Qy 301 SLPGKKVGAEDIEKTIKACPKSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPKSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360

Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 3
US-10-467-243-2
; Sequence 2, Application US/10467243
; Publication No. US20040132971A1
; GENERAL INFORMATION:
; APPLICANT: Maxygen Holdings Ltd.
; APPLICANT: Haaning, Jesper Mortensen
; APPLICANT: Halkier, Torben
; TITLE OF INVENTION: RANK LIGAND-BINDING POLYPEPTIDES
; FILE REFERENCE: 0226wo310
; CURRENT APPLICATION NUMBER: US/10/467,243
; CURRENT FILING DATE: 2003-08-06
; PRIOR FILING DATE: DK PA 2001 00214
; PRIOR FILING DATE: 2001-02-09
; PRIOR APPLICATION NUMBER: US 60/267,843
; PRIOR FILING DATE: 2001-02-09
; PRIOR APPLICATION NUMBER: DK PA 2001 00498
; PRIOR FILING DATE: 2001-03-23
; PRIOR APPLICATION NUMBER: US 60/278,320
; PRIOR FILING DATE: 2001-03-23
; NUMBER OF SEQ ID NOS: 38
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-467-243-2

Query Match 100.0%; Score 2198; DB 16; Length 401;
Best Local Similarity 100.0%; Pred. No. 1.3e-175;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60

Qy 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNRTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVCKELQYVQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTOKGNAT 180
Db 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTOKGNAT 180

Qy 181 HDNICSGNSESTQCGIDVTLCEBAFFRAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSGNSESTQCGIDVTLCEBAFFRAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy 241 KROHSSOEQTFOLLKWKHONKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSIME 300
Db 241 KROHSSOEQTFOLLKWKHONKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSIME 300

Qy 301 SLPGKKVGAEDIEKTIKACPKSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPKSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKT 360

Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

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Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 4
US-10-129-595-3
; Sequence 3, Application US/10129595
; Publication No. US20050031583A1
; GENERAL INFORMATION:
; APPLICANT: Genentech, Inc. et al.
; TITLE OF INVENTION: Uses of OPG Ligand to Modulate Immune Responses
; FILE REFERENCE: P1830R1
; CURRENT APPLICATION NUMBER: US/10/129,595
; CURRENT FILING DATE: 2002-05-08
; PRIOR APPLICATION NUMBER: US 60/278,215
; PRIOR FILING DATE: 2001-03-23
; NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 3
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-129-595-3

Query Match 100.0%; Score 2198; DB 17; Length 401;
Best Local Similarity 100.0%; Pred. No. 1.3e-175;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHYDEETSHQLLCKDKCPGPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHYDEETSHQLLCKDKCPGPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNRTNHRVCECKEGRYLIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNRTNHRVCECKEGRYLIEFCLK 120
Qy 121 HRSCPPGFGVVOAGTTPERTVCKCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGFGVVOAGTTPERTVCKCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSNGSESTQKCGIDVTLCCEAFFRAFPVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSNGSESTQKCGIDVTLCCEAFFRAFPVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Qy 241 KRQSSQEQTFQLLKLWKHQKQAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSIME 300
Db 241 KRQSSQEQTFQLLKLWKHQKQAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSIME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHFPKPT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHFPKPT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 5
US-10-966-845-4
; Sequence 4, Application US/10966845
; Publication No. US20050143301A1
; GENERAL INFORMATION:
; APPLICANT: Applied Research Systems ARS Holding N.V.
; TITLE OF INVENTION: Use of osteoprotegerin for the treatment and/or prevention of fib
; FILE REFERENCE: US 550 CIP
; CURRENT APPLICATION NUMBER: US/10/966,845
; CURRENT FILING DATE: 2004-10-15
; PRIOR APPLICATION NUMBER: EP02100364.5
; PRIOR FILING DATE: 2002-04-10
; PRIOR APPLICATION NUMBER: PCT/EP03/50080
; PRIOR FILING DATE: 2003-03-26
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.1
```

```
; SEQ ID NO 4
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-966-845-4

Query Match 100.0%; Score 2198; DB 18; Length 401;
Best Local Similarity 100.0%; Pred. No. 1.3e-175;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHYDEETSHQLLCKDKCPGPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLYHYDEETSHQLLCKDKCPGPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNRTNHRVCECKEGRYLIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNRTNHRVCECKEGRYLIEFCLK 120
Qy 121 HRSCPPGFGVVOAGTTPERTVCKCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGFGVVOAGTTPERTVCKCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSNGSESTQKCGIDVTLCCEAFFRAFPVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSNGSESTQKCGIDVTLCCEAFFRAFPVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Qy 241 KRQSSQEQTFQLLKLWKHQKQAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSIME 300
Db 241 KRQSSQEQTFQLLKLWKHQKQAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSIME 300
Qy 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHFPKPT 360
Db 301 SLPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHFPKPT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 6
US-10-762-159-125
; Sequence 125, Application US/10762159
; Publication No. US20050221331A1
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David I.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 168
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/762,159
; FILING DATE: 2004-JAN-20
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/132,985
; FILING DATE: 1998-AUG-12
; APPLICATION NUMBER: 08/771,777
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
```


REFERENCE/DOCKET NUMBER: A-378-CIP
INFORMATION FOR SEQ ID NO: 125:
SEQUENCE CHARACTERISTICS:
LENGTH: 401 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-10-762-159-125

Query Match 100.0%; Score 2198; DB 18; Length 401;
Best Local Similarity 100.0%; Pred. No. 1.3e-175;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MNKLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Db 1 MNKLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNTHNRVCECKEGRYLEIEFCLK 120
Qy 121 HRSPPGFGVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSPPGFGVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSNSESTQCGIDVTLCSEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSNSESTQCGIDVTLCSEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Qy 241 KROHSSQEQTFOLLKLWKHQNKAQDIVKKIIQIDILCENSVDORHIGHANLTFEQLRSLME 300
Db 241 KROHSSQEQTFOLLKLWKHQNKAQDIVKKIIQIDILCENSVDORHIGHANLTFEQLRSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACPSQDILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPSQDILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPPKT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 7
US-11-058-073-125
Sequence 125, Application US/11058073
Publication No. US20050147611A1
GENERAL INFORMATION:
APPLICANT: BOYLE, WILLIAM J.
APPLICANT: LACEY, DAVID LEE
APPLICANT: CALZONE, FRANK J.
APPLICANT: CHANG, MING-SHI
APPLICANT: SENALDI, GIORGIO
TITLE OF INVENTION: COMBINATION THERAPY FOR CONDITIONS LEADING TO BONE LOSS
FILE REFERENCE: A-378CIPSC
CURRENT APPLICATION NUMBER: US/11/058,073
CURRENT FILING DATE: 2005-02-14
PRIOR FILING DATE: US/09/613,591
PRIOR FILING DATE: 2000-07-10
PRIOR APPLICATION NUMBER: US 09/457,647
PRIOR FILING DATE: 1999-12-09
PRIOR APPLICATION NUMBER: US 09/350,670
PRIOR FILING DATE: 1999-07-09
PRIOR APPLICATION NUMBER: US 08/706,945
PRIOR FILING DATE: 1996-09-03
PRIOR APPLICATION NUMBER: US 08/577,788
PRIOR FILING DATE: 1995-12-22
NUMBER OF SEQ ID NOS: 178
SOFTWARE: PatentIn version 3.2
SEQ ID NO 125
LENGTH: 401
TYPE: PRT
ORGANISM: Homo sapiens
US-11-058-073-125

Query Match 99.8%; Score 2194; DB 20; Length 401;
Best Local Similarity 99.8%; Pred. No. 2.8e-175;
Matches 400; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MNKLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Db 1 MNKLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKS 60
Qy 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNTHNRVCECKEGRYLEIEFCLK 120
Qy 121 HRSPPGFGVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSPPGFGVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSNSESTQCGIDVTLCSEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSNSESTQCGIDVTLCSEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Qy 241 KROHSSQEQTFOLLKLWKHQNKAQDIVKKIIQIDILCENSVDORHIGHANLTFEQLRSLME 300
Db 241 KROHSSQEQTFOLLKLWKHQNKAQDIVKKIIQIDILCENSVDORHIGHANLTFEQLRSLME 300
Qy 301 SLPGKKVGAEDIEKTIKACPSQDILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPSQDILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPPKT 360
Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 8
US-10-142-658-2
Sequence 2, Application US/10142658
Publication No. US20030022834A1
GENERAL INFORMATION:
APPLICANT: Malyankar, Uriel M.
APPLICANT: Scatena, Marta
APPLICANT: Giachelli, Cecilia M.
TITLE OF INVENTION: METHODS AND DEVICES FOR PROMOTING ENDOTHELIAL MORPHOGENESIS
FILE REFERENCE: UWOTL118975
CURRENT APPLICATION NUMBER: US/10/142,658
CURRENT FILING DATE: 2002-05-09
PRIOR APPLICATION NUMBER: US 60/290,230
PRIOR FILING DATE: 2001-05-10
NUMBER OF SEQ ID NOS: 2
SOFTWARE: PatentIn version 3.1
SEQ ID NO 2
LENGTH: 400
TYPE: PRT
ORGANISM: Homo Sapiens
US-10-142-658-2

Query Match 99.8%; Score 2193; DB 14; Length 400;
Best Local Similarity 100.0%; Pred. No. 3.4e-175;
Matches 400; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 2 NKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 61
Db 1 NKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWTV 60
Qy 62 CAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNTHNRVCECKEGRYLEIEFCLKH 121
Db 61 CAPCPDHYTDSWHTSDECLYCSVPCKELQYVQECNTHNRVCECKEGRYLEIEFCLKH 120
Qy 122 RSCPPGFGVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATH 181
Db 121 RSCPPGFGVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATH 180
Qy 182 DNICSNSESTQCGIDVTLCSEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIK 241

Db 181 DNICSGNSESTQKCGIDVTLCCEAFFRAVPTKTPNWLVLVDNLPGTKVNAESVERIK 240
Qy 242 ROHSSQEQTFOLLKLWKHONKAQDIVKIIQIDILCENSQVORHIGHANLTPEQLRSLMES 301
Db 241 ROHSSQEQTFOLLKLWKHONKAQDIVKIIQIDILCENSQVORHIGHANLTPEQLRSLMES 300
Qy 302 LPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGLMHALKHKSITYHPFKTV 361
Db 301 LPGKKVGAEDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGLMHALKHKSITYHPFKTV 360
Qy 362 TQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401
Db 361 TQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 400

RESULT 9
US-10-066-209-1
; Sequence 1, Application US/10066209
; Publication No. US20020115110A1
; GENERAL INFORMATION:
; APPLICANT: Brigham-Burke, Michael R.
; APPLICANT: Young, Peter R.
; TITLE OF INVENTION: A METHOD OF IDENTIFYING AGONIST AND
; TITLE OF INVENTION: ANTAGONISTS FOR TUMOR NECROSIS RELATED RECEPTORS TR1 AND TR2
; FILE REFERENCE: GH-50030-D1
; CURRENT APPLICATION NUMBER: US/10/066,209
; PRIOR FILING DATE: 2001-10-25
; PRIOR APPLICATION NUMBER: 09/072,993
; PRIOR FILING DATE: 1998-05-06
; PRIOR APPLICATION NUMBER: 60/055,513
; PRIOR FILING DATE: 1997-08-13
; PRIOR APPLICATION NUMBER: 60/056,980
; PRIOR FILING DATE: 1997-08-26
; PRIOR APPLICATION NUMBER: 60/057,550
; PRIOR FILING DATE: 1997-08-29
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
; LENGTH: 401
; TYPE: PRT
; ORGANISM: HOMO SAPIENS
US-10-066-209-1

Query Match 99.7%; Score 2192; DB 13; Length 401;
Best Local Similarity 99.8%; Pred. No. 4.2e-175;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPHYTDSWHTSDECLYCSPVCKELQYVQKQCNRTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPHYTDSWHTSDECLYCSPVCKELQYVQKQCNRTHNRVCECKEGRYLEIEFCLK 120
Qy 121 HRSCPPGFGVQAGTPERNTVCRCPDGFFSNETS SKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGFGVQAGTPERNTVCRCPDGFFSNETS SKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSGNSESTQKCGIDVTLCCEAFFRAVPTKTPNWLVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSGNSESTQKCGIDVTLCCEAFFRAVPTKTPNWLVLVDNLPGTKVNAESVERI 240

Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNOVQSVKISCL 401

RESULT 10
US-10-105-934-2
; Sequence 2, Application US/10105934
; Publication No. US20020150988A1
; GENERAL INFORMATION:
; APPLICANT: McCarthy, Sean A.
; Holtzman, Douglas
; TITLE OF INVENTION: NOVEL MOLECULES OF THE FTHMA-070-
; RELATED PROTEIN FAMILY AND THE F95-RELATED PROTEIN
; FAMILY AND USES THEREOF
; NUMBER OF SEQUENCES: 18
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Fish & Richardson P.C.
; STREET: 225 Franklin Street
; CITY: Boston
; STATE: MA
; COUNTRY: USA
; ZIP: 02110-2804
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/105,934
; FILING DATE: 25-Mar-2002
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/062,389
; FILING DATE: 17-APR-1998
; APPLICATION NUMBER: 60/062,017
; FILING DATE: 10-OCT-1997
; APPLICATION NUMBER: 60/044,746
; FILING DATE: 18-APR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Meiklejohn, Anita L.
; REGISTRATION NUMBER: 35,283
; REFERENCE/DOCKET NUMBER: 09404/051001
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617/542-5070
; TELEFAX: 617/542-8906
; TELEX: 200154
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FRAGMENT TYPE: internal
; SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-10-105-934-2

Query Match 99.7%; Score 2192; DB 13; Length 401;
Best Local Similarity 99.8%; Pred. No. 4.2e-175;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKQHCTAKWKT 60
Qy 61 VCAPCPHYTDSWHTSDECLYCSPVCKELQYVQKQCNRTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPHYTDSWHTSDECLYCSPVCKELQYVQKQCNRTHNRVCECKEGRYLEIEFCLK 120
Qy 121 HRSCPPGFGVQAGTPERNTVCRCPDGFFSNETS SKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGFGVQAGTPERNTVCRCPDGFFSNETS SKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy 181 HDNICSGNSESTQKCGIDVTLCCEAFFRAVPTKTPNWLVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSGNSESTQKCGIDVTLCCEAFFRAVPTKTPNWLVLVDNLPGTKVNAESVERI 240

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Db      181 HDNICSNSESTKCGIDVTLCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Qy      241 KQHSSQEQTFQLLKLWKHQKQADIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
Db      241 KQHSSQEQTFQLLKLWKHQKQDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
Qy      301 SLPGKKVGABDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPKPT 360
Db      301 SLPGKKVGABDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPKPT 360
Qy      361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db      361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 11
US-10-164-592-2
; Sequence 2, Application US/10164592
; Publication No. US20020150989A1
; GENERAL INFORMATION:
; APPLICANT: Greene, John M.
; APPLICANT: Fleischmann, Robert D.
; TITLE OF INVENTION: Human Tumor Necrosis Factor Receptor
; FILE REFERENCE: 1488.0710007
; CURRENT APPLICATION NUMBER: US/10/164,592
; CURRENT FILING DATE: 2002-06-10
; PRIOR APPLICATION NUMBER: US 08/469,637
; PRIOR FILING DATE: 1995-06-06
; PRIOR APPLICATION NUMBER: PCT/US95/03216
; PRIOR FILING DATE: 1995-03-15
; NUMBER OF SEQ ID NOS: 10
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-164-592-2
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Query Match      99.7%; Score 2192; DB 13; Length 401;
Best Local Similarity 99.8%; Pred. No. 4.2e-175;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy      1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Db      1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Qy      61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQKQECNRTNHRVCECKEGRYLEIEFCLK 120
Db      61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQKQECNRTNHRVCECKEGRYLEIEFCLK 120
Qy      121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db      121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy      181 HDNICSNSESTKCGIDVTLCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db      181 HDNICSNSESTKCGIDVTLCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Qy      241 KQHSSQEQTFQLLKLWKHQKQADIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
Db      241 KQHSSQEQTFQLLKLWKHQKQDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
Qy      301 SLPGKKVGABDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPKPT 360
Db      301 SLPGKKVGABDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPKPT 360
Qy      361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db      361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
```

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RESULT 12
US-10-044-674-3
```

```
; Sequence 3, Application US/10044674
; Publication No. US20030175710A1
; GENERAL INFORMATION:
; APPLICANT: Chew, Anne
; APPLICANT: Denton, R. Rex
; APPLICANT: Bieglecki, Karyn M
; APPLICANT: Nandabalan, Krishnan
; APPLICANT: Stephens, J. Claiborne
; TITLE OF INVENTION: HAPLOTYPES OF THE TNFRSF11B GENE
; FILE REFERENCE: TNFRSF11B_MNH-0001US (CIP)
; CURRENT APPLICATION NUMBER: US/10/044,674
; PRIOR FILING DATE: 2002-01-09
; PRIOR APPLICATION NUMBER: PCT/US00/18803
; PRIOR FILING DATE: 2000-07-10
; NUMBER OF SEQ ID NOS: 94
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-044-674-3

Query Match      99.7%; Score 2192; DB 14; Length 401;
Best Local Similarity 99.8%; Pred. No. 4.2e-175;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy      1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Db      1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCKDCPPGTYLKQHCTAKWKT 60
Qy      61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQKQECNRTNHRVCECKEGRYLEIEFCLK 120
Db      61 VCAPCPDHYTDSWHTSDECLYCSVPCKELQYVQKQECNRTNHRVCECKEGRYLEIEFCLK 120
Qy      121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db      121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Qy      181 HDNICSNSESTKCGIDVTLCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db      181 HDNICSNSESTKCGIDVTLCEAFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Qy      241 KQHSSQEQTFQLLKLWKHQKQADIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
Db      241 KQHSSQEQTFQLLKLWKHQKQDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
Qy      301 SLPGKKVGABDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPKPT 360
Db      301 SLPGKKVGABDIEKTIKACKPSDQILKLSLWRIKNGDQDTLKGMLHALKHSKTYHPKPT 360
Qy      361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db      361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 13
US-10-322-673-5
; Sequence 5, Application US/10322673
; Publication No. US20030180296A1
; GENERAL INFORMATION:
; APPLICANT: Salcedo et al.
; TITLE OF INVENTION: Antibodies that Immunospecifically Bind to TRAIL
; FILE REFERENCE: PF585
; CURRENT APPLICATION NUMBER: US/10/322,673
; CURRENT FILING DATE: 2002-12-19
; PRIOR APPLICATION NUMBER: 60/341,237
; PRIOR FILING DATE: 2001-12-20
; PRIOR APPLICATION NUMBER: 60/369,877
; PRIOR FILING DATE: 2002-04-05
; PRIOR APPLICATION NUMBER: 60/384,828
; PRIOR FILING DATE: 2002-06-04
; PRIOR APPLICATION NUMBER: 60/396,591
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; PRIOR FILING DATE: 2002-07-18
; PRIOR APPLICATION NUMBER: 60/403,370
; PRIOR FILING DATE: 2002-08-15
; PRIOR APPLICATION NUMBER: 60/425,737
; PRIOR FILING DATE: 2002-11-13
; NUMBER OF SEQ ID NOS: 72
; SEQ ID NO 5
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-322-673-5

Query Match 99.7%; Score 2192; DB 14; Length 401;
Best Local Similarity 99.8%; Pred. No. 4.2e-175;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCKCPKPPGYLKHCHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCKCPKPPGYLKHCHCTAKWKT 60

Qy 61 VCAPCPHYTDSWHTSDECLYCSPVCKELQYVQECNRTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPHYTDSWHTSDECLYCSPVCKELQYVQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy 121 HRSCPPGGVQAGTPERTVCKPCPDGFFSNETSSEKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGGVQAGTPERTVCKPCPDGFFSNETSSEKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy 181 HDNICSNSESTQCGIDVTLCEAFAFRFAVPTFTPNWLSVLDNLPKTKVNAESVERI 240
Db 181 HDNICSNSESTQCGIDVTLCEAFAFRFAVPTFTPNWLSVLDNLPKTKVNAESVERI 240

Qy 241 KROHSSQEQTFQLLKWQKQKQDQIVKKIIOIDILCENSVRHGHANLTFEQLRSIME 300
Db 241 KROHSSQEQTFQLLKWQKQKQDQIVKKIIOIDILCENSVRHGHANLTFEQLRSIME 300

Qy 301 SLPGKKVGAEDIEKTIKACPSDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHFPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPSDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHFPKT 360

Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 14
US-10-785-5
; Sequence 5, Application US/10139785
; Publication No. US20030190685A1
; GENERAL INFORMATION:
; APPLICANT: Salcedo et al.
; TITLE OF INVENTION: Antibodies that Immunospecifically Bind to TRAIL
; FILE REFERENCE: PF550
; CURRENT APPLICATION NUMBER: US/10/139,785
; CURRENT FILING DATE: 2002-05-07
; PRIOR APPLICATION NUMBER: 60/369,860
; PRIOR FILING DATE: 2002-04-05
; PRIOR APPLICATION NUMBER: 60/341,237
; PRIOR FILING DATE: 2001-12-20
; PRIOR APPLICATION NUMBER: 60/331,310
; PRIOR FILING DATE: 2001-11-14
; PRIOR APPLICATION NUMBER: 60/331,044
; PRIOR FILING DATE: 2001-11-07
; PRIOR APPLICATION NUMBER: 60/327,364
; PRIOR FILING DATE: 2001-10-09
; PRIOR APPLICATION NUMBER: 60/323,807
; PRIOR FILING DATE: 2001-09-21
; PRIOR APPLICATION NUMBER: 60/309,176
; PRIOR FILING DATE: 2001-08-02
; PRIOR APPLICATION NUMBER: 60/294,981
; PRIOR FILING DATE: 2001-06-04
; PRIOR APPLICATION NUMBER: 60/293,473

; PRIOR FILING DATE: 2001-05-25
; NUMBER OF SEQ ID NOS: 66
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 5
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-139-785-5

Query Match 99.7%; Score 2192; DB 14; Length 401;
Best Local Similarity 99.8%; Pred. No. 4.2e-175;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCKCPKPPGYLKHCHCTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETPPPKYLHYDEETSHQLLCKCPKPPGYLKHCHCTAKWKT 60

Qy 61 VCAPCPHYTDSWHTSDECLYCSPVCKELQYVQECNRTHNRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPHYTDSWHTSDECLYCSPVCKELQYVQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy 121 HRSCPPGGVQAGTPERTVCKPCPDGFFSNETSSEKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGGVQAGTPERTVCKPCPDGFFSNETSSEKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy 181 HDNICSNSESTQCGIDVTLCEAFAFRFAVPTFTPNWLSVLDNLPKTKVNAESVERI 240
Db 181 HDNICSNSESTQCGIDVTLCEAFAFRFAVPTFTPNWLSVLDNLPKTKVNAESVERI 240

Qy 241 KROHSSQEQTFQLLKWQKQKQDQIVKKIIOIDILCENSVRHGHANLTFEQLRSIME 300
Db 241 KROHSSQEQTFQLLKWQKQKQDQIVKKIIOIDILCENSVRHGHANLTFEQLRSIME 300

Qy 301 SLPGKKVGAEDIEKTIKACPSDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHFPKT 360
Db 301 SLPGKKVGAEDIEKTIKACPSDQILKLSLWRIKNGDQDTLKGIMHALKHSKTYHFPKT 360

Qy 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401

RESULT 15
US-10-895-676-2
; Sequence 2, Application US/10895676
; Publication No. US20050032172A1
; GENERAL INFORMATION:
; APPLICANT: McCarthy, Sean A.
; TITLE OF INVENTION: NOVEL MOLECULES OF THE FTHMA-070-RELATED PROTEIN FAMILY AND THE T85-RELATED PROTEIN FAMILY AND USES THEREOF
; NUMBER OF SEQUENCES: 18
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Fian & Richardson P.C.
; STREET: 225 Franklin Street
; CITY: Boston
; STATE: MA
; COUNTRY: USA
; ZIP: 02110-2804
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/895,676
; FILING DATE: 21-Jul-2004
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/10/105,934
; FILING DATE: 25-Mar-2002
; APPLICATION NUMBER: US/09/062,389
; FILING DATE: 17-APR-1998

; APPLICATION NUMBER: 60/062,017
; FILING DATE: 10-OCT-1997
; APPLICATION NUMBER: 60/044,746
; FILING DATE: 18-APR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: MelkleJohn, Anita L.
; REGISTRATION NUMBER: 35,283
; REFERENCE/DOCKET NUMBER: 09404/051001
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617/542-5070
; TELEFAX: 617/542-8906
; TELEX: 200154
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FRAGMENT TYPE: internal
; SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-10-895-676-2

Query Match 99.7%; Score 2192; DB 17; Length 401;
Best Local Similarity 99.8%; Pred. No. 4.2e-175;
Matches 400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKHCHTAKWKT 60
Db 1 MNKLLCCALVFLDISIKWTTQETFPKYLHYDEETSHQLLCDKCPGTYLKHCHTAKWKT 60

Qy 61 VCAPCPDHYTDSWHTSDECLYSPVCKELQYVQKQECNRTHRVCECKEGRYLEIEFCLK 120
Db 61 VCAPCPDHYTDSWHTSDECLYSPVCKELQYVQKQECNRTHRVCECKEGRYLEIEFCLK 120

Qy 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
Db 121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy 181 HDNICSNSESTQKCGIDVTLCBEAFPRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
Db 181 HDNICSNSESTQKCGIDVTLCBEAFPRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy 241 KROHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSQVRHIGHANLTFEQLRSLME 300
Db 241 KROHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSQVRHIGHANLTFEQLRSLME 300

Qy 301 SLPCKKVGABDIEKTIKACKPSDQILKLSLWRIKNGDQDTLXGLMHALKHSTYHPPKT 360
Db 301 SLPCKKVGABDIEKTIKACKPSDQILKLSLWRIKNGDQDTLXGLMHALKHSTYHPPKT 360

Qy 361 VTQSLKKTIRFLHSFTMYKLYOKLFLFMIGNOVQSVKISCL 401
Db 361 VTQSLKKTIRFLHSFTMYKLYOKLFLFMIGNOVQSVKISCL 401

Search completed: November 14, 2005, 23:23:56
Job time : 116.585 secs

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OM protein - protein search, using sw model

Run on: November 14, 2005, 22:25:59 ; Search time 55.0676 Seconds
(without alignments)
1264.207 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_201
Perfect score: 1046
Sequence: 1 ETPPKVLHYDEETSHQLLC.....DNICSGNSESTQKGDIVTL 180

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A Geneseq_16Dec04:*

- 1: Geneseqp1980s:*
- 2: Geneseqp1990s:*
- 3: Geneseqp2000s:*
- 4: Geneseqp2001s:*
- 5: Geneseqp2002s:*
- 6: Geneseqp2003as:*
- 7: Geneseqp2003bs:*
- 8: Geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1046	100.0	272	2 AAR99944	Mutated O
2	1046	100.0	321	2 AAR99949	Mutated O
3	1046	100.0	327	2 AAR99941	Mutated O
4	1046	100.0	349	2 AAW83928	Human FTH
5	1046	100.0	351	2 AAR99943	Mutated O
6	1046	100.0	373	6 ABG73071	Human ost
7	1046	100.0	380	2 AAR99924	Mature OS
8	1046	100.0	380	4 AAB66988	Murine OP
9	1046	100.0	380	6 AAO19638	Human mil
10	1046	100.0	380	7 ADF15245	Human alb
11	1046	100.0	380	8 ADM28827	Human ost
12	1046	100.0	380	8 ADM28860	Human ost
13	1046	100.0	381	8 ADM28870	Human ost
14	1046	100.0	382	8 ADM28869	Human OP
15	1046	100.0	385	8 ADM28876	Human OP
16	1046	100.0	390	2 AAR99357	Human tum
17	1046	100.0	391	2 AAW53238	Human OCI
18	1046	100.0	391	8 ADM28877	Human OP
19	1046	100.0	393	2 AAR99948	Mutated O
20	1046	100.0	395	2 AAW57636	Modified
21	1046	100.0	395	3 AAB18716	Carboxy t
22	1046	100.0	399	2 AAR99942	Mutated O
23	1046	100.0	400	6 ABU08820	Human ost
24	1046	100.0	401	2 AAR99925	Full leng
25	1046	100.0	401	2 AAR99934	Mutated O

26	1046	100.0	401	2 AAR99932	Mutated O
27	1046	100.0	401	2 AAW38345	Human ost
28	1046	100.0	401	2 AAW53239	Human OCI
29	1046	100.0	401	2 AAY05742	Tumour ne
30	1046	100.0	401	2 AAW95030	Tumour ne
31	1046	100.0	401	2 AAW83926	Human FTH
32	1046	100.0	401	3 AAY43400	Osteoprot
33	1046	100.0	401	3 AAY88622	Osteoclas
34	1046	100.0	401	3 AAB18715	A human t
35	1046	100.0	401	4 AAB60570	Human TNF
36	1046	100.0	401	4 AAB66976	Human OP
37	1046	100.0	401	5 ABG71823	Wild type
38	1046	100.0	401	6 ABP55109	Human ost
39	1046	100.0	401	6 AAE34363	Human ost
40	1046	100.0	401	6 AAE36245	Human TRA
41	1046	100.0	401	6 AAO31135	Human TRA
42	1046	100.0	401	6 ABP70997	Human ost
43	1046	100.0	401	7 ADD01627	Human ost
44	1046	100.0	401	7 ADD01625	Human ost
45	1046	100.0	401	7 ADD37427	Human ost

ALIGNMENTS

RESULT 1
AAR99944
ID AAR99944 standard; protein; 272 AA.
XX
AC AAR99944;
XX
DT 23-APR-1997 (first entry)
XX
DE Mutated OCIF, OCIF-CDD2.
XX
KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
KW osteoporosis.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Peptide 1..21
FT Protein /note= "Signal peptide"
FT /note= "Mature OCIF-CDD2"
XX
PN WO9626217-A1.
XX
PD 29-AUG-1996.
XX
PF 20-FEB-1996; 96WO-JP000374.
XX
PR 20-FEB-1995; 95JP-00054977.
PR 21-JUL-1995; 95JP-00207508.
XX
PA (SNOW) SNOW BRAND MILK PROD CO LTD.
XX
PI Goto M, Tsuda E, Mochizuki S, Yano K, Kobayashi F, Shima N;
PI Yasuda H, Nakagawa N, Morinaga T, Ueda M, Higashio K;
DR WPI; 1996-402320/40.
DR N-PSDB; AAT31174.
XX
PT DNA encoding osteoclastogenesis inhibitory factor protein - useful for
PT bone resorption control, esp. treatment of osteoporosis.
XX
PS Claim 68; Page 121-122; 183pp; Japanese.
XX
CC This sequence represents a mutated version of the full length
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC sequence represents OCIF-CDD2 in which amino acids 252-380 of the mature
CC OCIF protein are deleted. The OCIF of the invention has a molecular
CC weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under

CC non-reducing conditions. The protein is adsorbed onto cation-exchangers
CC or heparin and its activity is lowered after 10 mins at 70 deg.C or 30
CC mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful
CC in the control of bone resorption and therefore in the treatment and
CC prevention of disorders of bone resorption, e.g. osteoporosis
XX
SQ Sequence 272 AA;

Query Match 100.0%; Score 1046; DB 2; Length 272;
Best Local Similarity 100.0%; Pred. No. 4.4e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 ETPPPKYLHYDETSHTQLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYHYTDSWHTSDECL 60
Db 22 ETPPPKYLHYDETSHTQLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYHYTDSWHTSDECL 81
Qy 61 YCSPVCKELQYVQECNRTHNRVCECKEGRYLIEFCLKHRSCPPGFGVVQAGTPERTV 120
Db 82 YCSPVCKELQYVQECNRTHNRVCECKEGRYLIEFCLKHRSCPPGFGVVQAGTPERTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCSGNSESTQKCGIDVT 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCSGNSESTQKCGIDVT 201

RESULT 2

AAR99949
ID AAR99949 standard; protein; 321 AA.

XX AC AAR99949;

DT 23-APR-1997 (first entry)

XX DE Mutated OCIF, OCIF-CSph.

XX Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
KW osteoporosis.

XX OS Synthetic.

Key Location/Qualifiers
FH Peptide 1..21
FT /note= "Signal peptide"
FT Protein 22..321
FT /note= "Mature OCIF-CSph"

XX PN WO9626217-A1.

XX PD 29-AUG-1996.

XX PF 20-FEB-1996; 96WO-JP000374.

XX PR 20-FEB-1995; 95JP-00054977.

XX PR 21-JUL-1995; 95JP-00207508.

XX PA (SNOW) SNOW BRAND MILK PROD CO LTD.

XX PI Goto M, Tsuda E, Mochizuki S, Yano K, Kobayashi F, Shima N;
PI Yasuda H, Nakagawa N, Morinaga T, Ueda M, Higashio K;

XX DR WPI; 1996-402320/40.
DR N-PSDB; AAT33179.

XX DNA encoding osteoclastogenesis inhibitory factor protein - useful for
PT bone resorption control, esp. treatment of osteoporosis.

XX PS Claim 83; Page 128-129; 183pp; Japanese.

XX This sequence represents a mutated version of the full length
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC sequence represents OCIF-CSph in which amino acids 298-380 of the mature
CC OCIF protein are replaced by Ser-Leu-Asp. These changes are caused by the
CC introduction of a restriction site in the DNA encoding this protein. The

CC OCIF of the invention has a molecular weight by SDS-PAGE of 60 kD under
CC reducing conditions and 120 kD under non-reducing conditions. The protein
CC is adsorbed onto cation-exchangers or heparin and its activity is lowered
CC after 10 mins at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10
CC mins at 90 deg.C. OCIF is useful in the control of bone resorption and
CC therefore in the treatment and prevention of disorders of bone
CC resorption, e.g. osteoporosis
XX
SQ Sequence 321 AA;

Query Match 100.0%; Score 1046; DB 2; Length 321;
Best Local Similarity 100.0%; Pred. No. 5.1e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 ETPPPKYLHYDETSHTQLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYHYTDSWHTSDECL 60
Db 22 ETPPPKYLHYDETSHTQLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYHYTDSWHTSDECL 81
Qy 61 YCSPVCKELQYVQECNRTHNRVCECKEGRYLIEFCLKHRSCPPGFGVVQAGTPERTV 120
Db 82 YCSPVCKELQYVQECNRTHNRVCECKEGRYLIEFCLKHRSCPPGFGVVQAGTPERTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCSGNSESTQKCGIDVT 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCSGNSESTQKCGIDVT 201

RESULT 3

AAR99941
ID AAR99941 standard; protein; 327 AA.

XX AC AAR99941;

DT 23-APR-1997 (first entry)

XX DE Mutated OCIF, OCIF-DDD2.

XX Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
KW osteoporosis.

XX OS Synthetic.

Key Location/Qualifiers
FH Peptide 1..21
FT /note= "Signal peptide"
FT Protein 22..327
FT /note= "Mature OCIF-DDD2"
FT Misc-difference 273..274
FT /note= "Position of deletion, delta 253-326"

XX PN WO9626217-A1.

XX PD 29-AUG-1996.

XX PF 20-FEB-1996; 96WO-JP000374.

XX PR 20-FEB-1995; 95JP-00054977.

XX PR 21-JUL-1995; 95JP-00207508.

XX PA (SNOW) SNOW BRAND MILK PROD CO LTD.

XX PI Goto M, Tsuda E, Mochizuki S, Yano K, Kobayashi F, Shima N;
PI Yasuda H, Nakagawa N, Morinaga T, Ueda M, Higashio K;

XX DR WPI; 1996-402320/40.
DR N-PSDB; AAT33171.

XX DNA encoding osteoclastogenesis inhibitory factor protein - useful for
PT bone resorption control, esp. treatment of osteoporosis.

XX PS Claim 59; Page 115-116; 183pp; Japanese.

XX This sequence represents a mutated version of the full length

CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC sequence represents OCIF-DD2 in which amino acids 253-326 of the mature
CC OCIF protein are deleted. The OCIF of the invention has a molecular
CC weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under
CC non-reducing conditions. The protein is adsorbed onto cation-exchangers
CC and heparin and its activity is lowered after 10 mins at 70 deg.C or 30
CC mins at 56 deg.C. and is lost after 10 mins at 90 deg.C. OCIF is useful
CC in the control of bone resorption and therefore in the treatment and
CC prevention of disorders of bone resorption, e.g. osteoporosis
XX
SQ Sequence 327 AA;

Query Match 100.0%; Score 1046; DB 2; Length 327;
Best Local Similarity 100.0%; Pred. No. 5.2e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPPPKYLHYDEETSHQLLCKDPCPGTYLKQHCTAKWTKVCAPCPDHYTDSWHTSDCL 60
DB 22 ETPPPKYLHYDEETSHQLLCKDPCPGTYLKQHCTAKWTKVCAPCPDHYTDSWHTSDCL 81
QY 61 YCSPVKELQVYQECNTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVQAGTPERNTV 120
DB 82 YCSPVKELQVYQECNTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVQAGTPERNTV 141
QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
DB 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201

RESULT 4
AAW83928
ID AAW83928 standard; protein; 349 AA.
AC AAW83928;
XX
XX
DT 01-MAR-1999 (first entry)
DE Human FTHMA-070 partial polypeptide.
XX
XX FTHMA-070; human; neurological disorder; diagnosis; therapy.
XX
XX Homo sapiens.
XX
XX W09848051-A2.
XX
XX 29-OCT-1998.
XX
XX 17-APR-1998; 98WO-US007714.
XX
XX 18-APR-1997; 97US-0044746P.
XX
XX 10-OCT-1997; 97US-0062017P.
XX
XX (MILL-) MILLENNIUM BIOTHERAPEUTICS INC.
XX
XX McCarthy SA, Holtzman D;
XX
XX WPI; 1999-024021/02.
XX
XX N-PSDB; AAV69279.
XX
XX New isolated human FTHMA-070 and T85 proteins - used to develop products
XX for the diagnosis and therapy of disorders involving cellular processes,
XX e.g. neuronal development.
XX
XX Disclosure; Fig 2; 127pp; English.
XX
XX This is the amino acid sequence of a partial human FTHMA-070 polypeptide,
XX deduced from a partial cDNA (see AAV69279). Full-length FTHMA-070 (see
XX AAW83926) is claimed. It is a novel protein having homology to tumour
XX necrosis factor receptor. FTHMA-070 nucleic acids and polypeptides of the
XX invention are useful as modulating agents in regulating a variety of
XX cellular processes. They can be used for identifying compounds which bind
XX to or modulate the activity of the polypeptides (claimed). They can also
XX be used in screening assays, detection assays (e.g. chromosomal mapping,

CC tissue typing, forensic biology), predictive medicine (e.g. diagnostic
CC assays, prognostic assays, monitoring clinical trials, and
CC pharmacogenomics), and methods of treatment (e.g. therapeutic and
CC prophylactic) e.g. for neurological disorders
XX
SQ Sequence 349 AA;

Query Match 100.0%; Score 1046; DB 2; Length 349;
Best Local Similarity 100.0%; Pred. No. 5.6e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPPPKYLHYDEETSHQLLCKDPCPGTYLKQHCTAKWTKVCAPCPDHYTDSWHTSDCL 60
DB 44 ETPPPKYLHYDEETSHQLLCKDPCPGTYLKQHCTAKWTKVCAPCPDHYTDSWHTSDCL 103
QY 61 YCSPVKELQVYQECNTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVQAGTPERNTV 120
DB 104 YCSPVKELQVYQECNTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVQAGTPERNTV 163
QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
DB 164 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 223

RESULT 5
AAR99943
ID AAR99943 standard; protein; 351 AA.
XX
XX AAR99943;
XX
XX 23-APR-1997 (first entry)
XX
XX Mutated OCIF, OCIF-CC.
XX
XX Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
XX osteoporosis.
XX
XX Synthetic.
XX
XX Key Location/Qualifiers
XX Peptide 1..21
XX /note= "Signal peptide"
XX Protein 22..351
XX /note= "Mature OCIF-CC"
XX
XX W09626217-A1.
XX
XX 29-AUG-1996.
XX
XX 20-FEB-1996; 96WO-JP000374.
XX
XX 20-FEB-1995; 95JP-00054977.
XX
XX 21-JUL-1995; 95JP-00207508.
XX
XX (SNOW) SNOW BRAND MILK PROD CO LTD.
XX
XX Goto M, Teuda E, Mochizuki S, Yano K, Kobayashi F, Shima N;
XX Yasuda H, Nakagawa N, Morinaga T, Ueda M, Higashio K;
XX
XX WPI; 1996-402320/40.
XX
XX N-PSDB; AAT33173.
XX
XX DNA encoding osteoclastogenesis inhibitory factor protein - useful for
XX bone resorption control, esp. treatment of osteoporosis.
XX
XX Claim 65; Page 119-121, 183pp; Japanese.
XX
XX This sequence represents a mutated version of the full length
XX osteoclastogenesis inhibitory factor (OCIF) of the invention. This
XX sequence represents OCIF-CC in which amino acids 331-380 of the mature
XX OCIF protein are deleted. The OCIF of the invention has a molecular
XX weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under
XX non-reducing conditions. The protein is adsorbed onto cation-exchangers

CC or heparin and its activity is lowered after 10 mins at 70 deg.C or 30
 CC mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful
 CC in the control of bone resorption and therefore in the treatment and
 CC prevention of disorders of bone resorption, e.g. osteoporosis
 XX
 SQ Sequence 351 AA;
 Query Match 100.0%; Score 1046; DB 2; Length 351;
 Best Local Similarity 100.0%; Pred. No. 5.6e-76;
 Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 ETFPKYLHYDEBTSKQKCPGTYLKHCTAKWTVCAPCPDHYTDSWHTSDECL 60
 DB 22 ETFPKYLHYDEBTSKQKCPGTYLKHCTAKWTVCAPCPDHYTDSWHTSDECL 81
 QY 61 YCSPVCKELQYVKECNRTNHRVCECKEGRYLEIEFCLKHSRCPGFGVVQAGTPERTV 120
 DB 82 YCSPVCKELQYVKECNRTNHRVCECKEGRYLEIEFCLKHSRCPGFGVVQAGTPERTV 141
 QY 121 CKRCPDGFFSNSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSESTQKCGIDVTL 180
 DB 142 CKRCPDGFFSNSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSESTQKCGIDVTL 201

RESULT 6
 ABG73071
 ID ABG73071 standard; protein; 373 AA.

XX AC ABG73071;
 XX 31-MAR-2003 (first entry)
 XX Human osteoclastogenesis inhibitory factor OPG-372 polypeptide.
 XX Human; osteoclastogenesis inhibitory factor; OPG-372; osteoporosis;
 XX hypercalcaemia.
 XX Homo sapiens.

Key Location/Qualifiers
 FT Misc-difference 73..75
 FT /note= "Encoded by TCAAGCAGG"
 FT Misc-difference 222
 FT /note= "Encoded by CGG"
 FT Misc-difference 263
 FT /note= "Encoded by CGG"

XX WO200298908-A2.
 XX 12-DEC-2002.
 XX 20-MAR-2002; 2002WO-IB002134.
 XX 21-MAR-2001; 2001CN-00105706.

(GENE-) GENEMEDIX PLC.

Wu X;

WPI; 2003-140587/13.
 DR N-PSDB; ABX15325.

XX New osteoclastogenesis inhibitory factor OPG-372 applicable in diagnosis
 XX of, and developing drugs for treating, osteoporosis and hypercalcaemia.

XX Claim 1; Fig 9; 30pp; Chinese.

XX The invention relates to a human osteoclastogenesis inhibitory factor OPG
 CC -372 polypeptide and the polynucleotide encoding it. The polypeptide, the
 CC polynucleotide and an antibody binding specifically with the polypeptide
 CC are applicable in diagnosis of osteoporosis and hypercalcaemia, and in
 CC drug compositions and for screening candidate compounds for treating
 CC osteoporosis and hypercalcaemia. This sequence represents the human OPG-

CC 372 polypeptide
 XX
 SQ Sequence 373 AA;

Query Match 100.0%; Score 1046; DB 6; Length 373;
 Best Local Similarity 100.0%; Pred. No. 6e-76;
 Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETFPKYLHYDEBTSKQKCPGTYLKHCTAKWTVCAPCPDHYTDSWHTSDECL 60
 DB 2 ETFPKYLHYDEBTSKQKCPGTYLKHCTAKWTVCAPCPDHYTDSWHTSDECL 61
 QY 61 YCSPVCKELQYVKECNRTNHRVCECKEGRYLEIEFCLKHSRCPGFGVVQAGTPERTV 120
 DB 62 YCSPVCKELQYVKECNRTNHRVCECKEGRYLEIEFCLKHSRCPGFGVVQAGTPERTV 121
 QY 121 CKRCPDGFFSNSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSESTQKCGIDVTL 180
 DB 122 CKRCPDGFFSNSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSESTQKCGIDVTL 181

RESULT 7
 AAR99924
 ID AAR99924 standard; protein; 380 AA.

XX AC AAR99924;
 XX 22-APR-1997 (first entry)

XX Mature osteoclastogenesis inhibitory factor.

XX Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
 XX osteoporosis.

XX Homo sapiens.

XX WO9626217-A1.

XX 29-AUG-1996.

XX 20-FEB-1996; 96WO-JP000374.

XX 20-FEB-1995; 95JP-00054977.

XX 21-JUL-1995; 95JP-00207508.

XX (SNOW) SNOW BRAND MILK PROD CO LTD.

XX Goto M, Tsuda E, Mochizuki S, Yano K, Kobayashi P, Shima N;
 PI Yasuda H, Nakagawa N, Morinaga T, Ueda M, Higashio K;

XX WPI; 1996-402320/40.

XX N-PSDB; AAT36685.

XX DNA encoding osteoclastogenesis inhibitory factor protein - useful for
 XX bone resorption control, esp. treatment of osteoporosis.

XX Claim 6; Page 62-64; 183pp; Japanese.

XX This sequence represents the mature osteoclastogenesis inhibitory factor
 CC (OCIF) of the invention. The OCIF has a molecular weight by SDS-PAGE of
 CC 60 kD under reducing conditions and 120 kD under non-reducing
 CC conditions. The protein is adsorbed onto cation-exchangers or heparin and
 CC its activity is lowered after 10 mins at 70 deg.C or 30 mins at 56 deg.C,
 CC and is lost after 10 mins at 90 deg.C. OCIF is useful in the control of
 CC bone resorption and therefore in the treatment and prevention of
 CC disorders of bone resorption, e.g. osteoporosis

XX SQ Sequence 380 AA;

Query Match 100.0%; Score 1046; DB 2; Length 380;
 Best Local Similarity 100.0%; Pred. No. 6.1e-76;
 Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFFPKYLHYDEETSHQLLCKDKCPGTYLKQHCCTAKWKTVCAPCPDHYVYDTSWHTSDDECL 60
Db 1 ETFFPKYLHYDEETSHQLLCKDKCPGTYLKQHCCTAKWKTVCAPCPDHYVYDTSWHTSDDECL 60
Qy 61 YCSPVKELQVVKQECNRTHNRVCECKEGRYLEIEFCLKXHRSCPPGFGVQAGTPERNTV 120
Db 61 YCSPVKELQVVKQECNRTHNRVCECKEGRYLEIEFCLKXHRSCPPGFGVQAGTPERNTV 120
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 121 CKRCPDGFSSNETSSKAPCRKHTNCVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
RESULT 8
AAB66988
ID AAB66988 standard; protein; 380 AA.
XX
AC AAB66988;
DT 19-APR-2001 (first entry)
XX
DE Murine OPG cysteine-rich domain.
XX
KW Bone loss; osteoprotegerin; OPG; rheumatoid arthritis; hyperalgesia;
KW multiple sclerosis; osteoporosis; osteomyelitis; asthma; inflammation;
KW systemic lupus erythematosus; graft-versus-host disease; septic shock;
KW acute pancreatitis; Alzheimer's disease; anorexia; atherosclerosis; pain;
KW coronary condition; myocardial infarction; cancer; diabetes; psoriasis;
KW endometriosis; fever; glomerulonephritis; inflammatory bowel disease;
KW ischaemia; Parkinson's disease.
XX
OS Mus sp.
XX
XX WO200103719-A2.
XX
PD 18-JAN-2001.
XX
XX 07-JUL-2000; 2000WO-US018667.
XX
XX 09-JUL-1999; 99US-00350670.
PR 09-DEC-1999; 99US-00457647.
XX
XX (AMGE-) AMGEN INC.
XX
XX Boyle WJ, Lacey DL, Calzone FJ, Chang M, Senaldi G;
XX WPI; 2001-103031/11.
XX
XX Treating conditions leading to bone loss such as rheumatoid arthritis,
PT multiple sclerosis and asthma, comprises administering an osteoprotegerin
PT protein in conjunction with e.g. inhibitors of interleukin and tumor
PT necrosis factor alpha.
XX
XX Disclosure; Fig 12; 316pp; English.
XX
XX The present invention relates to a method for treating conditions leading
CC to bone loss. The method comprises administering a purified and isolated
CC osteoprotegerin (OPG) protein (AAF57836-AAF57838 and AAB66974-AAB66976)
CC in conjunction with other substances such as tumour necrosis factor-alpha
CC (TNF-alpha) inhibitors, interleukin (IL)-6, -8 and -18 inhibitors, ICE
CC modulators, fibroblast growth factor (FGF)-10 modulators and/or platelet
CC activating factor (PAF) antagonists. The method is useful for treating
CC conditions leading to bone loss such as rheumatoid arthritis, multiple
CC sclerosis, osteoporosis, osteomyelitis and asthma. The method is also
CC useful for treating inflammation, systemic lupus erythematosus (SLE) and
CC graft-versus-host disease (GvHD). Other diseases that can be treated
CC include acute pancreatitis, Alzheimer's disease, anorexia,
CC atherosclerosis, coronary conditions (e.g. myocardial infarction),
CC cancer, diabetes, endometriosis, fever, glomerulonephritis, hyperalgesia,
CC inflammatory bowel disease, ischaemia, pain, Parkinson's disease,
CC psoriasis and septic shock
XX
SQ Sequence 380 AA;

Query Match 100.0%; Score 1046; DB 4; Length 380;
Best Local Similarity 100.0%; Pred. No. 6.1e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 ETFFPKYLHYDEETSHQLLCKDKCPGTYLKQHCCTAKWKTVCAPCPDHYVYDTSWHTSDDECL 60
Db 1 ETFFPKYLHYDEETSHQLLCKDKCPGTYLKQHCCTAKWKTVCAPCPDHYVYDTSWHTSDDECL 60
Qy 61 YCSPVKELQVVKQECNRTHNRVCECKEGRYLEIEFCLKXHRSCPPGFGVQAGTPERNTV 120
Db 61 YCSPVKELQVVKQECNRTHNRVCECKEGRYLEIEFCLKXHRSCPPGFGVQAGTPERNTV 120
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 121 CKRCPDGFSSNETSSKAPCRKHTNCVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
RESULT 9
AAO19638
ID AAO19638 standard; protein; 380 AA.
XX
AC AAO19638;
DT 13-FEB-2003 (first entry)
XX
DE Human milk osteoprotegerin mature protein.
XX
KW Human; milk; osteoprotegerin; bone metabolism; immune function; OPG;
KW OCIF; TRI; osteoclastogenesis inhibitory factor; osteomyelitis;
KW TNF-receptor-like molecule 1; osteoporosis; osteopenia; hypercalcaemia;
KW Paget's disease of bone; osteonecrosis; osteopathic; cycostatic;
KW antiarthritic; antirheumatic; antiallergic; immunosuppressive;
KW antiinflammatory; dermatological; cardiant.
XX
OS Homo sapiens.
XX
XX WO200281521-A2.
XX
PD 17-OCT-2002.
XX
XX 15-MAR-2002; 2002WO-EP002912.
PF
XX 03-APR-2001; 2001EP-00108414.
PR
XX (NEST) SOC PROD NESTLE SA.
XX
XX Vidal X, Van Den Broek P, Offord Cavin E, Donnet-Hugues A;
XX WPI; 2003-058506/05.
DR N-PSDB; AAL50347.
XX
XX Osteoprotegerin obtainable from human and bovine milk useful for
PT preparing ingestible preparations and pharmaceutical compositions for
PT preventing or treating disorders associated with bone metabolism and
PT immune function.
XX
XX Example; Fig 7; 32pp; English.
XX
XX The present invention relates to osteoprotegerin (OPG), also known as
CC osteoclastogenesis inhibitory factor, OCIF, and TNF-receptor-like
CC molecule 1, TRI). In particular, the invention relates to versions of the
CC protein isolated from human and bovine milk. OPG is useful for the
CC manufacture of an ingestible preparation, such as a food material like
CC milk, yogurt, curd, cheese, fermented milks, milk-based fermented
CC products, ice-creams, fermented cereal-based products, milk-based
CC powders, infant formulae and pet food, and an enteral composition or
CC pharmaceutical composition. OPG is useful for preparing material or
CC composition for the treatment of disorders associated with bone
CC system, and for the treatment of disorders associated with bone
CC remodeling. Such disorders include osteoporosis, Paget's disease of bone,
CC osteomyelitis, infectious lesions in bone leading to bone loss,
CC hypercalcaemia, osteopenia, osteonecrosis, bone loss due to

CC osteoarthritis or rheumatoid arthritis, periodontal bone loss and/or
CC osteolytic metastasis. OPG is also useful for preparing a food material
CC or pharmaceutical composition for the treatment of and/or prophylaxis of
CC immune disorders such as allergy, autoimmunity, inflammatory bowel
CC diseases, systemic autoimmune conditions, dysregulation of cell
CC proliferation and apoptosis, and immunopathological conditions of the
CC skin, the oral cavity, gastrointestinal, urogenital or respiratory
CC tracts, and also disorders associated with prematurity and/or low birth
CC weight. The present sequence is the mature OPG protein isolated from
CC human milk
XX
SQ Sequence 380 AA;

Query Match 100.0%; Score 1046; DB 6; Length 380;
Best Local Similarity 100.0%; Pred. No. 6.1e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLVHDEETSHQLLCKPCPPGYLKQHCTAKWTKVCAPCPDHYTDSWHTSDECL 60
Db 1 ETPPKYLVHDEETSHQLLCKPCPPGYLKQHCTAKWTKVCAPCPDHYTDSWHTSDECL 60

Qy 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHNATHDNIICSGNSESTQKCGIDVTL 120
Db 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHNATHDNIICSGNSESTQKCGIDVTL 120

Qy 121 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIICSGNSESTQKCGIDVTL 180
Db 121 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIICSGNSESTQKCGIDVTL 180

RESULT 10
ADF15245
ID ADF15245 standard; protein; 380 AA.
AC ADF15245;
XX
DT 12-FEB-2004 (first entry)
XX Human albumin fusion protein-related protein SeqID543.
DE
XX albumin fusion protein; albumin activity; human serum albumin;
XX serum osmotic pressure; shelf-life; stability; antidiabetic;
XX gene therapy; diabetes mellitus; human; gene; ds.
XX
OS Homo sapiens.
XX
XX W02003060071-A2.
PN
XX
PD 24-JUL-2003.
XX
XX 23-DEC-2002; 2002WO-US040891.
PF
XX 21-DEC-2001; 2001US-034181P.
PR 24-JAN-2002; 2002US-0350358P.
PR 28-JAN-2002; 2002US-0351360P.
PR 26-FEB-2002; 2002US-0359370P.
PR 28-FEB-2002; 2002US-0360000P.
PR 27-MAR-2002; 2002US-0367500P.
PR 08-APR-2002; 2002US-0370227P.
PR 10-MAY-2002; 2002US-0378950P.
PR 24-MAY-2002; 2002US-0382617P.
PR 28-MAY-2002; 2002US-0383123P.
PR 05-JUN-2002; 2002US-0385708P.
PR 10-JUL-2002; 2002US-0394625P.
PR 24-JUL-2002; 2002US-0398008P.
PR 09-AUG-2002; 2002US-0402131P.
PR 13-AUG-2002; 2002US-0402708P.
PR 18-SEP-2002; 2002US-0411355P.
PR 18-SEP-2002; 2002US-0411426P.
PR 02-OCT-2002; 2002US-0414984P.
PR 11-OCT-2002; 2002US-0417611P.
PR 23-OCT-2002; 2002US-0420246P.
PR 05-NOV-2002; 2002US-0423623P.

XX (HUMA-) HUMAN GENOME SCI INC.
PA (DELZ) DELTA BIOTECHNOLOGY LTD.
PA (PRIN-) PRINCIPIA PHARM CORP.
XX
PI Ballance DJ, Turner AJ, Rosen CA, Haseltine WA;
XX WPI; 2003-598517/56.
DR N-PSDB; ADF15810.
XX
PT New albumin fusion protein, useful for preparing a composition for
PT treating diabetes mellitus.
XX
XX Example 4; SEQ ID NO 543; 24pp; English.
PS
XX This invention relates to a novel albumin fusion protein having albumin
CC or biological activity. Human serum albumin is responsible for a
CC significant proportion of the osmotic pressure of serum and also
CC functions as a carrier of endogenous and exogenous ligands. The fusion of
CC albumin to a therapeutic protein may increase shelf-life and stability of
CC the therapeutic protein. The albumin fusion protein of the invention may
CC allow production of compositions with antidiabetic activity whilst the
CC nucleotide sequence which encodes it may be useful for gene therapy. The
CC albumin fusion protein is useful for preparing a composition for treating
CC diabetes mellitus. The present sequence is that of a therapeutic protein
CC which was fused with human albumin to create a novel albumin fusion
CC protein of the invention. Note: The sequence data for this patent did not
CC form part of the printed specification, but was obtained in electronic
CC format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
XX
SQ Sequence 380 AA;

Query Match 100.0%; Score 1046; DB 7; Length 380;
Best Local Similarity 100.0%; Pred. No. 6.1e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLVHDEETSHQLLCKPCPPGYLKQHCTAKWTKVCAPCPDHYTDSWHTSDECL 60
Db 1 ETPPKYLVHDEETSHQLLCKPCPPGYLKQHCTAKWTKVCAPCPDHYTDSWHTSDECL 60

Qy 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHNATHDNIICSGNSESTQKCGIDVTL 120
Db 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHNATHDNIICSGNSESTQKCGIDVTL 120

Qy 121 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIICSGNSESTQKCGIDVTL 180
Db 121 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIICSGNSESTQKCGIDVTL 180

RESULT 11
ADM28827
ID ADM28827 standard; protein; 380 AA.
XX
AC ADM28827;
DT 20-MAY-2004 (first entry)
XX
XX Human osteoprotegerin cysteine-rich domains 1-4 plus C-terminus #1.
XX
XX Mouse; OPG; bone resorption; excessive bone loss; osteoporosis;
XX Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
XX steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
XX osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
XX acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
XX Riley-day syndrome; immobilisation of extremity; tumour;
XX haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
XX renal function disorder; osteopaenia; osteonecrosis; bone cell death;
XX osteoprotegerin; transgenic.
OS Mus sp.
XX
XX US2003207827-A1.
PN
XX

PD XX 06-NOV-2003.

PF XX 24-SEP-1999; 99US-00405032.

XX XX 22-DEC-1995; 95US-00577788.

PR XX 03-SEP-1996; 96US-00706945.

PR XX 20-DEC-1996; 96US-00771777.

PR XX 12-AUG-1998; 98US-00132985.

XX XX (BOYL/) BOYLE W J.

PA (LACE/) LACEY D L.

PA (CALZ/) CALZONE F J.

XX XX (CHAN/) CHANG M.

PI Boyle WJ, Lacey DL, Calzone FJ, Chang M;

XX WPI; 2004-041572/04.

DR Novel osteoprotegerin useful for treating conditions resulting in bone

XX loss such as osteoporosis, hypercalcaemia, Paget's disease of bone, bone

PT loss caused by rheumatoid arthritis or osteomyelitis.

XX

PS Disclosure; SEQ ID NO 139; 141pp; English.

XX

CC The invention relates to a purified and isolated polypeptide having

CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or

CC having amino terminus at residue 22, and 1-216 amino acids are deleted

CC from carboxy terminus of human OPG polypeptide. Also included are an

CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression

CC vector comprising OPG NA, a host cell transformed or transfected with the

CC polypeptide comprising an amino acid sequence of at least about 164 amino

CC acids comprising four cysteine-rich domains characteristic of the

CC cysteine rich domains of tumour necrosis factor receptor extracellular

CC regions (and an activity of increasing bone density), an antibody (Ab) or

CC its fragment which specifically binds to OPG, a composition comprising

CC OPG (in a carrier, adjuvant, stabiliser, stabiliser and/or anti-oxidant)

CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.

CC Ab is useful for detecting the presence of OPG in a biological sample

CC which involves incubating the sample with Ab under conditions that allow

CC binding of Ab to OPG and detecting the bound Ab. OPG is useful for

CC assessing the ability of a candidate substance to bind to OPG. OPG NA is

CC useful for regulating the levels of OPG in an animal (human). The nucleic

CC acid promotes an increasing in tissue level of OPG. OPG is useful for

CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's

CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced

CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to

CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The

CC method further involves administering a substance chosen from bone

CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1

CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,

CC parathyroid hormone related protein and their analogues, E series of

CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is

CC useful for treating osteoporosis such as primary osteoporosis, endocrine

CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),

CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta

CC, homocystinuria, Menke's syndrome, and Riley-day syndrome) and

CC osteoporosis due to immobilisation of extremities, hypercalcaemia

CC resulting from solid tumours and haematologic malignancies (multiple

CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and

CC hypercalcaemia associated with hyperthyroidism and renal function

CC disorders, osteopaenia following surgery and osteonecrosis or bone cell

CC death. The present sequences is an OPG protein (or fragment).

XX

SQ Sequence 380 AA;

XX

Query Match 100.0%; Score 1046; DB 8; Length 380;

Best Local Similarity 100.0%; Pred. No. 6.1e-76;

Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPFPKYLHDEESHQLLDCPCPPGYLKHQCTAKWKTVCAPCPDHYTDSWHTSDECL 60

DB 1 ETPFPKYLHDEESHQLLDCPCPPGYLKHQCTAKWKTVCAPCPDHYTDSWHTSDECL 60

QY 61 YCSPVKELQYVVKQECNRTNHRVCECKEGRYLEIEFCLKHRSCTPPGFGVQAGTPERNTV 120

DB 61 YCSPVKELQYVVKQECNRTNHRVCECKEGRYLEIEFCLKHRSCTPPGFGVQAGTPERNTV 120

QY 121 CKRCPDGFSSNETSKAPCRKHTNCSVFGLLLTQKGNATHDNI CGNSESTQKCGIDVTLL 180

DB 121 CKRCPDGFSSNETSKAPCRKHTNCSVFGLLLTQKGNATHDNI CGNSESTQKCGIDVTLL 180

RESULT 12

ADM28860

ID ADM28860 standard; protein; 380 AA.

XX

XX ADM28860;

AC

XX 20-MAY-2004 (first entry)

DT

XX Human osteoprotegerin cysteine-rich domains 1-4 plus C-terminus #2.

DE

XX Human; OPG; bone resorption; excessive bone loss; osteoporosis;

XX Paget's disease of bone; hypercalcaemia; hyperparathyroidism;

XX steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;

XX osteolytic metastasis; periodontal bone loss; Cushing's syndrome;

XX acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;

XX Riley-day syndrome; immobilisation of extremity; tumour;

XX haematologic malignancy; multiple myeloma; lymphoma; leukaemia;

XX renal function disorder; osteopaenia; osteonecrosis; bone cell death;

XX osteoprotegerin; transgenic.

OS

XX Homo sapiens.

XX

XX US2003207827-A1.

FN

XX 06-NOV-2003.

XX

XX 24-SEP-1999; 99US-00405032.

XX

XX 22-DEC-1995; 95US-00577788.

PR

XX 03-SEP-1996; 96US-00706945.

PR

XX 20-DEC-1996; 96US-00771777.

PR

XX 12-AUG-1998; 98US-00132985.

XX

XX (BOYL/) BOYLE W J.

PA (LACE/) LACEY D L.

PA (CALZ/) CALZONE F J.

XX (CHAN/) CHANG M.

XX

XX Boyle WJ, Lacey DL, Calzone FJ, Chang M;

PI WPI; 2004-041572/04.

DR

XX Novel osteoprotegerin useful for treating conditions resulting in bone

XX loss such as osteoporosis, hypercalcaemia, Paget's disease of bone, bone

XX loss caused by rheumatoid arthritis or osteomyelitis.

XX

XX Example 6; Fig 12; 141pp; English.

PS

XX The invention relates to a purified and isolated polypeptide having

XX osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or

XX having amino terminus at residue 22, and 1-216 amino acids are deleted

XX from carboxy terminus of human OPG polypeptide. Also included are an

XX isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression

XX vector comprising OPG NA, a host cell transformed or transfected with the

XX polypeptide comprising an amino acid sequence of at least about 164 amino

XX acids comprising four cysteine-rich domains characteristic of the

XX cysteine rich domains of tumour necrosis factor receptor extracellular

XX regions (and an activity of increasing bone density), an antibody (Ab) or

XX its fragment which specifically binds to OPG, a composition comprising

XX OPG (in a carrier, adjuvant, stabiliser, stabiliser and/or anti-oxidant)

XX and an osteoprotegerin multimer consisting of osteoprotegerin monomers.

XX Ab is useful for detecting the presence of OPG in a biological sample

XX which involves incubating the sample with Ab under conditions that allow

XX binding of Ab to OPG and detecting the bound Ab. OPG is useful for

XX assessing the ability of a candidate substance to bind to OPG. OPG NA is

XX useful for regulating the levels of OPG in an animal (human). The nucleic

XX acid promotes an increasing in tissue level of OPG. OPG is useful for

XX treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's

XX disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced

XX osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to

XX osteomyelitis, osteolytic metastasis, and periodontal bone loss. The

XX method further involves administering a substance chosen from bone

XX morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1

XX inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,

XX parathyroid hormone related protein and their analogues, E series of

XX prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is

XX useful for treating osteoporosis such as primary osteoporosis, endocrine

XX osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),

XX hereditary and congenital forms of osteoporosis (osteogenesis imperfecta

XX, homocystinuria, Menke's syndrome, and Riley-day syndrome) and

XX osteoporosis due to immobilisation of extremities, hypercalcaemia

XX resulting from solid tumours and haematologic malignancies (multiple

XX myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and

XX hypercalcaemia associated with hyperthyroidism and renal function

XX disorders, osteopaenia following surgery and osteonecrosis or bone cell

XX death. The present sequences is an OPG protein (or fragment).

XX

CC which involves incubating the sample with Ab under conditions that allow
 CC binding of ab to OPG and detecting the bound Ab. OPG is useful for
 CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
 CC useful for regulating the levels of OPG in an animal (human). The nucleic
 CC acid promotes an increasing in tissue level of OPG. OPG is useful for
 CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
 CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
 CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
 CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
 CC method further involves administering a substance chosen from bone
 CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
 CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
 CC parathyroid hormone related protein and their analogues, E series of
 CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
 CC useful for treating osteoporosis such as primary osteoporosis, endocrine
 CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
 CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
 CC , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
 CC osteoporosis due to immobilisation of extremities, hypercalcaemia
 CC resulting from solid tumours and haematologic malignancies (multiple
 CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
 CC hypercalcaemia associated with hyperthyroidism and renal function
 CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
 CC death. The present sequences is an OPG protein (or fragment).

XX Sequence 380 AA;

Query Match 100.0%; Score 1046; DB 8; Length 380;
 Best Local Similarity 100.0%; Pred. No. 6.1e-76;
 Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHOLLCDKCPGGTYLKQHTAKWKTVCAPCPDHYTDSWHTSDECL 60
 Db 1 ETPPKYLHYDEETSHOLLCDKCPGGTYLKQHTAKWKTVCAPCPDHYTDSWHTSDECL 60
 Qy 61 YCSPVKELQYVQKQCNRTNHRVCECKEGRYLIEFCLKHSRCPGGVQAGTPERTV 120
 Db 61 YCSPVKELQYVQKQCNRTNHRVCECKEGRYLIEFCLKHSRCPGGVQAGTPERTV 120
 Qy 121 CKRCPDGFNSSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNCSGNSESTQKCGIDVTL 180
 Db 121 CKRCPDGFNSSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNCSGNSESTQKCGIDVTL 180

RESULT 13

ID ADM28870
 AC ADM28870 standard; protein; 381 AA.

XX ADM28870;

XX 20-MAY-2004 (first entry)

XX Human OPG truncation mutant, OPG met[22-401].

XX Human; OPG; bone resorption; excessive bone loss; osteoporosis;
 KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
 KW steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
 KW osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
 KW acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
 KW Riley-day syndrome; immobilisation of extremity; tumour;
 KW haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
 KW renal function disorder; osteopaenia; osteonecrosis; bone cell death;
 KW osteoprotegerin; transgenic; mutant; mutein.

XX Homo sapiens.
 OS Synthetic.

XX US2003207827-A1.

XX 06-NOV-2003.

XX 24-SEP-1999; 99US-00405032.

PR 22-DEC-1995; 95US-00577788.
 PR 03-SEP-1996; 96US-00706945.
 PR 20-DEC-1996; 96US-00771777.
 PR 12-AUG-1998; 98US-00132985.

XX (BOYL/) BOYLE W J.
 PA (LACE/) LACEY D L.
 PA (CALZ/) CALZONE F J.
 PA (CHAN/) CHANG M.

XX Boyle WJ, Lacey DL, Calzone FJ, Chang M;
 PI WPI; 2004-041572/04.

XX Novel osteoprotegerin useful for treating conditions resulting in bone
 PT loss such as osteoporosis, hypercalcaemia, Paget's disease of bone, bone
 PT loss caused by rheumatoid arthritis or osteomyelitis.

XX Claim 37; Page; 141pp; English.

XX The invention relates to a purified and isolated polypeptide having
 CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
 CC having amino terminus at residue 22, and 1-216 amino acids are deleted
 CC from carboxy terminus of human OPG polypeptide. Also included are an
 CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
 CC vector comprising OPG NA, a host cell transformed or transfected with the
 CC vector, a transgenic mammal comprising the cell, producing OPG, a
 CC polypeptide comprising an amino acid sequence of at least about 164 amino
 CC acids comprising four cysteine-rich domains characteristic of the
 CC cysteine rich domains of tumour necrosis factor receptor extracellular
 CC regions (and an activity of increasing bone density), an antibody (Ab) or
 CC its fragment which specifically binds to OPG, a composition comprising
 CC OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
 CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
 CC Ab is useful for detecting the presence of OPG in a biological sample
 CC which involves incubating the sample with Ab under conditions that allow
 CC binding of ab to OPG and detecting the bound Ab. OPG is useful for
 CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
 CC useful for regulating the levels of OPG in an animal (human). The nucleic
 CC acid promotes an increasing in tissue level of OPG. OPG is useful for
 CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
 CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
 CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
 CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
 CC method further involves administering a substance chosen from bone
 CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
 CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
 CC parathyroid hormone related protein and their analogues, E series of
 CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
 CC useful for treating osteoporosis such as primary osteoporosis, endocrine
 CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
 CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
 CC , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
 CC osteoporosis due to immobilisation of extremities, hypercalcaemia
 CC resulting from solid tumours and haematologic malignancies (multiple
 CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
 CC hypercalcaemia associated with hyperthyroidism and renal function
 CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
 CC death. The present sequences is an OPG truncation/deletion or
 CC substitution mutant protein (or fragment).

XX Sequence 381 AA;

Query Match 100.0%; Score 1046; DB 8; Length 381;
 Best Local Similarity 100.0%; Pred. No. 6.1e-76;
 Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHOLLCDKCPGGTYLKQHTAKWKTVCAPCPDHYTDSWHTSDECL 60
 Db 2 ETPPKYLHYDEETSHOLLCDKCPGGTYLKQHTAKWKTVCAPCPDHYTDSWHTSDECL 61
 Qy 61 YCSPVKELQYVQKQCNRTNHRVCECKEGRYLIEFCLKHSRCPGGVQAGTPERTV 120

Db 62 YCSPVKELQYVKECNRTNRVCEKEGRYLEIEFCLKHSRCPGFGVQAGTPERNVT 121
 QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNICSGNSESTQKCGIDVTL 180
 Db 122 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNICSGNSESTQKCGIDVTL 181

RESULT 14
 ADM28869
 ID ADM28869 standard; protein; 382 AA.
 XX
 AC ADM28869;
 XX
 DT 20-MAY-2004 (first entry)
 XX
 DE Human OPG truncation mutant, OPG met-lys[22-401].
 XX
 KW Human; OPG; bone resorption; excessive bone loss; osteoporosis;
 KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
 KW steroid-induced osteopenia; rheumatoid arthritis; osteomyelitis;
 KW osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
 KW acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
 KW Riley-day syndrome; immobilisation of extremity; tumour;
 KW haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
 KW renal function disorder; osteopenia; osteonecrosis; bone cell death;
 KW osteoprotegerin; transgenic; mutant; mutein.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 PN US2003207827-A1.
 XX
 PD 06-NOV-2003.
 XX
 PF 24-SEP-1999; 99US-00405032.
 XX
 PR 22-DEC-1995; 95US-00577788.
 XX
 PA (BOYLE/) BOYLE W J.
 PA (LACEY/) LACEY D L.
 PA (CALZ/) CALZONE F J.
 PA (CHAN/) CHANG M.
 XX
 PI Boyle WJ, Lacey DL, Calzone FJ, Chang M;
 XX
 DR WPI; 2004-041572/04.
 XX
 PT Novel osteoprotegerin useful for treating conditions resulting in bone
 PT loss such as osteoporosis, hypercalcaemia, Paget's disease of bone, bone
 PT loss caused by rheumatoid arthritis or osteomyelitis.
 XX
 PS Claim 37; Page; 141pp; English.
 XX

The invention relates to a purified and isolated polypeptide having
 osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
 having amino terminus at residue 22, and 1-216 amino acids are deleted
 from carboxy terminus of human OPG polypeptide. Also included are an
 isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
 vector comprising OPG NA, a host cell transformed or transfected with the
 polypeptide comprising an amino acid sequence of at least about 164 amino
 acids comprising four cysteine-rich domains characteristic of the
 cysteine rich domains of tumour necrosis factor receptor extracellular
 regions (and an activity of increasing bone density), an antibody (Ab) or
 its fragment which specifically binds to OPG, a composition comprising
 OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
 and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
 Ab is useful for detecting the presence of OPG in a biological sample
 which involves incubating the sample with Ab under conditions that allow
 binding of ab to OPG and detecting the bound Ab. OPG is useful for

CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
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 CC osteopenia, bone loss due to rheumatoid arthritis, bone loss due to
 CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
 CC method further involves administering a substance chosen from bone
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 CC disorders. The present sequences is an OPG truncation/deletion or
 CC substitution mutant protein (or fragment).
 XX
 SQ Sequence 382 AA;

Query Match 100.0%; Score 1046; DB 8; Length 382;
 Best Local Similarity 100.0%; Pred. No. 6.1e-76;
 Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETTPPKYLHYDEETSHQLLCKCPGYLYKHCHTAKWTKVPCAPCPDHYTDSWHTSDCL 60
 Db 3 ETTPPKYLHYDEETSHQLLCKCPGYLYKHCHTAKWTKVPCAPCPDHYTDSWHTSDCL 62

QY 61 YCSPVKELQYVKECNRTNRVCEKEGRYLEIEFCLKHSRCPGFGVQAGTPERNVT 120
 Db 63 YCSPVKELQYVKECNRTNRVCEKEGRYLEIEFCLKHSRCPGFGVQAGTPERNVT 122

QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNICSGNSESTQKCGIDVTL 180
 Db 123 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNICSGNSESTQKCGIDVTL 182

RESULT 15
 ADM28876
 ID ADM28876 standard; protein; 385 AA.
 XX
 AC ADM28876;
 XX

DT 20-MAY-2004 (first entry)
 XX
 DE Human OPG truncation mutant, OPG met-met-(lys)3[22-401].
 XX

KW Human; OPG; bone resorption; excessive bone loss; osteoporosis;
 KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
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 XX
 OS Homo sapiens.
 OS Synthetic.

XX US2003207827-A1.
 PN 06-NOV-2003.
 PD 24-SEP-1999; 99US-00405032.
 XX
 PF 22-DEC-1995; 95US-00577788.
 PR

PR 03-SEP-1996; 96US-00706945.
PR 20-DEC-1996; 96US-00771777.
PR 12-AUG-1998; 98US-00132985.
XX
PA (BOYL/) BOYLE W J.
PA (LACE/) LACEY D L.
PA (CALZ/) CALZONE F J.
PA (CHAN/) CHANG M.
XX
FI Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX WPI; 2004-041572/04.
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CC cysteine rich domains of tumour necrosis factor receptor extracellular
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CC parathyroid hormone related protein and their analogues, E series of
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CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC hypercalcaemia associated with hyperthyroidism and renal function
CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC death. The present sequences is an OPG truncation/deletion or
CC substitution mutant protein (or fragment).
XX
SQ Sequence 385 AA;

Search completed: November 14, 2005, 23:12:01
Job time : 56.0676 secs

Qy 121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNICSGNSESTQKCGIDVTL 180
Db 126 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNICSGNSESTQKCGIDVTL 185

Query Match 100.0%; Score 1046; DB 8; Length 385;
Best Local Similarity 100.0%; Pred. No. 6.2e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 ETFFPKYLHYDEETSHQLLCKPPGYLKQHTAKWTKVCAPCPDHYTDSWHTSDECL 60
Db 6 ETFFPKYLHYDEETSHQLLCKPPGYLKQHTAKWTKVCAPCPDHYTDSWHTSDECL 65
Qy 61 YCSPVKELQYVKQECNRTHNRVCECKEGRYLEIFCLKHRSCPPFGVQAGTPERNTV 120
Db 66 YCSPVKELQYVKQECNRTHNRVCECKEGRYLEIFCLKHRSCPPFGVQAGTPERNTV 125

GenCore version 5.1.1.6
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OM protein - protein search, using sw model

Run on: November 14, 2005, 22:30:05 ; Search time 52.2581 Seconds
(without alignments)
1763.828 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_201

Perfect score: 1046

Sequence: 1 ETFPPKYLHYDEETSHQLLC.....DNICSGNSESTQKCIDVTL 180

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : UniProt_03.*

1: uniprot_sprot.*

2: uniprot_trembl.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	1046	100.0	401	1	T11B_HUMAN
2	929	88.8	401	2	Q6P1I2
3	925	88.4	401	1	T11B_MOUSE
4	912	87.2	401	1	T11B_RAT
5	587.5	56.2	387	2	Q6GLN3
6	525	50.2	146	2	Q7ZZY4
7	450	43.0	186	2	Q7ZZY5
8	433.5	41.4	300	1	TR6B_HUMAN
9	405.5	38.8	302	2	Q9PUS0
10	377	36.0	285	2	Q90W71
11	369	35.3	285	2	Q90YS6
12	360	34.4	286	2	Q6NW61
13	332.5	31.8	459	2	Q62327
14	330	31.5	461	1	TR1B_HUMAN
15	329.5	31.5	474	1	TR1B_MOUSE
16	317.5	30.4	433	2	Q91ZM6
17	317.5	30.4	461	2	Q6VAU8
18	317.5	30.4	461	1	TR1B_RAT
19	310	29.6	651	2	Q98SM6
20	298	28.5	483	2	Q800K7
21	297	28.4	457	2	Q8IVS6
22	293	28.0	655	1	TR21_MOUSE
23	287	27.4	655	1	TR21_HUMAN
24	284	27.2	289	1	TNR5_MOUSE
25	284	27.2	289	2	Q8K2X6
26	271	25.9	467	2	Q800I0
27	270	25.8	169	2	Q9JKE0
28	267	25.5	278	2	Q8SQ34
29	267	25.5	462	2	Q805B0
30	265	25.3	276	2	Q9DD22
31	264	25.2	223	2	Q86YK5

32 264 25.2 277 1 TNR5_HUMAN P25942 homo sapien
33 252.5 24.1 616 1 TR11_HUMAN Q9Y6Q6 homo sapien
34 252.5 24.1 625 1 TR11_MOUSE O35305 mus musculus
35 250 23.9 318 2 Q7T2H3 Q7T2H3 oncorhynchu
36 249 23.8 269 1 TNR5_BOVIN Q28203 bos taurus
37 248 23.7 277 2 Q8WMO2 Q8WMO2 ovig aries
38 246 23.5 274 2 Q7YRL5 Q7YRL5 canis famli
39 239.5 22.9 275 2 Q80WM9 Q80WM9 mus musculus
40 239.5 22.9 276 2 Q71F55 Q71F55 mus musculus
41 239.5 22.9 349 2 O57099 O57099 monkeypox v
42 239.5 22.9 435 1 TNR3_HUMAN P36941 homo sapien
43 237.5 22.7 349 2 O57100 O57100 monkeypox v
44 237.5 22.7 349 2 O57101 O57101 monkeypox v
45 237.5 22.7 349 2 O57102 O57102 monkeypox v

ALIGNMENTS

RESULT 1

ID T11B_HUMAN STANDARD; PRT; 401 AA.
AC O00300; O60236; Q9UHP4;
DT 28-FEB-2003 (Rel. 41, Created)
DT 25-FEB-2003 (Rel. 41, Last sequence update)
DE Tumor necrosis factor receptor superfamily member 11B precursor
DE (Osteoprotegerin) (Osteoclastogenesis inhibitory factor).
GN Name=TNR5F11B; Synonyms=OCIF, OPG;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Kidney;
RX MEDLINE=97262071; PubMed=9108485; DOI=10.1016/S0092-8674(00)80209-3;
RA Simonet W.S., Lacey D.L., Dunstan C.R., Kelley M., Chang M.-S.,
RA Luethy R., Nguyen H.Q., Wooden S., Bennett L., Boone T., Shimamoto G.,
RA Derose M., Elliott R., Colombero A., Tan H.-L., Trail G., Sullivan J.,
RA Davy E., Bucay N., Renshaw-Gegg L., Hughes T.M., Hill D., Pattison W.,
RA Campbell P., Sander S., Van G., Tarpley J., Derby P., Lee R.,
RA Suggs S., Boyle W.J.;
RT "Osteoprotegerin: a novel secreted protein involved in the regulation
RT of bone density.";
RL Cell 89:309-319(1997).
[2]
RP SEQUENCE FROM N.A.
RC TISSUE=Lung cancer;
RX MEDLINE=98151033; PubMed=9492069; DOI=10.1210/en.139.3.1329;
RA Yasuda H., Shima N., Nakagawa N., Mochizuki S.-I., Yano K., Fujise N.,
RA Sato Y., Goto M., Yamauchi K., Kuriyama M., Kanno T., Murakami A.,
RA Tsuda E., Morinaga T., Higashio K.;
RT "Identity of osteoclastogenesis inhibitory factor (OCIF) and
RT osteoprotegerin (OPG): a mechanism by which OPG/OCIF inhibits
RT osteoclastogenesis in vitro.";
RL Endocrinology 139:1329-1337(1998).
[3]
RP SEQUENCE FROM N.A., AND VARIANT ASN-3.
RC TISSUE=Placenta;
RX MEDLINE=98351569; PubMed=9688283;
RA Morinaga T., Nakagawa N., Yasuda H., Tsuda E., Higashio K.;
RT "Cloning and characterization of the gene encoding human
RT osteoprotegerin/osteoclastogenesis-inhibitory factor.";
RL Eur. J. Biochem. 254:685-691(1998).
[4]
RP SEQUENCE FROM N.A., AND VARIANTS ASN-3 AND MET-104.
RA Livingston R.J., Rieder M.J., Chung M.-W., Ritchie T.K., Olson A.N.,
RA Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D., Schackwitz W.S.,
RA Sherwood J.K., Sherwood A.M., Leithauer B.J., Nickerson D.A.;
RT "NIEHS-SNPs, environmental genome project, NIEHS ES15478, Department
RT of Genome Sciences, Seattle, WA (URL: http://egp.gs.washington.edu).";
RL Submitted (NOV-2003) to the EMBL/GenBank/DBJ databases.

- [5]
SEQUENCE FROM N.A., AND VARIANT ASN-3.
RT TISSUE-Eye;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heide F.,
RA Diatchenko L., Narusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Scapleton M., Soares M.B., Bonaldi M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Udell T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullany S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Kettelman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinaki M.I., Skalska U., Smallos D.B.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.; and
RT "Generation and initial analysis of more than 15,000 full-length human
RL and mouse cDNA sequences";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
[6]
SEQUENCE OF 22-36 AND 378-401.
RX PubMed=15340161; DOI=10.1110/ps.04682504;
RA Zhang Z., Henzel W.J.;
RT "Signal peptide prediction based on analysis of experimentally
RT verified cleavage sites";
RL protein Sci. 13:2819-2824(2004).
[8]
SEQUENCE OF 22-393 FROM N.A.
RC TISSUE=Placenta;
RX PubMed=12110935;
RA He Z.-Y., Yang G.-Z., Zhang W.-J., Wu X.-F.;
RT "Cloning and expression of osteoprotegerin from Homo sapiens.";
RL Acta Biochim. Biophys. Sin. 31:680-684(1999).
[9]
SEQUENCE OF 242-255; 354-359 AND 369-378, AND FUNCTION.
RX MEDLINE=97312536; PubMed=9168977; DOI=10.1006/bbrc.1997.6603;
RA Tauda E., Goto M., Mochizuki S.-I., Yano K., Kobayashi F.,
RA Morinaga T., Higashio K.;
RT "Isolation of a novel cytokine from human fibroblasts that
RT specifically inhibits osteoclastogenesis";
RL Biochem. Biophys. Res. Commun. 234:137-142(1997).
[10]
TRAIL BINDING.
RX MEDLINE=98269100; PubMed=9603945; DOI=10.1074/jbc.273.23.14363;
RA Emery J.G., McDonnell P., Burke M.B., Deen K.C., Lyn S., Silverman C.,
RA Dul E., Appelbaum E.R., Eichman C., DiPietro R., Dadds R.A.,
RA James I.E., Rosenberg M., Lee J.C., Young P.R.;
RT "Osteoprotegerin is a receptor for the cytotoxic ligand TRAIL.";
RL J. Biol. Chem. 273:14363-14367(1998).
[11]
CHARACTERIZATION, AND MUTAGENESIS OF CYS-400.
RX MEDLINE=98148058; PubMed=9478964; DOI=10.1074/jbc.273.9.5117;
RA Yamaguchi K., Kinoshita M., Goto M., Kobayashi F., Tsuda E.,
RA Morinaga T., Higashio K.;
RT "Characterization of structural domains of human osteoclastogenesis
RT inhibitory factor";
RL J. Biol. Chem. 273:5117-5123(1998).
[12]
REVIEW.
RX MEDLINE=21395914; PubMed=11505389;
DOI=10.1002/1097-0142(20010801)92:3<460::AID-CNCR1344>3.0.CO;2-D;
RA Hofbauer L.C., Neubauer A., Heufelder A.E.;
RT "Receptor activator of nuclear factor-kappaB ligand and
RT osteoprotegerin: potential implications for the pathogenesis and
RL treatment of malignant bone diseases.";
RN Cancer 92:460-470(2001).
[13]
VARIANT JPD ASP-182 DEL.
RX PubMed=12189164; DOI=10.1093/hmg/11.18.2119;
RA Cundy T., Hegde M., Naot D., Chong B., King A., Wallace R., Mulvey J.,
RA Love D.R., Seidel J., Fawcett M., Banovic I., Callon K.E., Grey A.B.,
RA Reid I.R., Middleton-Hardie C.A., Cornish J.;
RT "A mutation in the gene TNFRSF11B encoding osteoprotegerin causes an
RT idiopathic hyperphosphatasia phenotype";
RL Hum. Mol. Genet. 11:2119-2127(2002).
CC -1- FUNCTION: Acts as decoy receptor for RANKL and thereby neutralizes
CC its function in osteoclastogenesis. Inhibits the activation of
CC osteoclasts and promotes osteoclast apoptosis in vitro. Bone
CC homeostasis seems to depend on the local RANKL/OPG ratio. May also
CC play a role in preventing arterial calcification. May act as decoy
CC receptor for TRAIL and protect against apoptosis. TRAIL binding
CC blocks the inhibition of osteoclastogenesis.
CC -1- SUBUNIT: Homodimer.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC TISSUE SPECIFICITY: Highly expressed in adult lung, heart, kidney,
CC liver, spleen, thymus, prostate, ovary, small intestine, thyroid,
CC lymph node, trachea, adrenal gland, testis, and bone marrow.
CC Detected at very low levels in brain, placenta and skeletal
CC muscle. Highly expressed in fetal kidney, liver and lung.
CC -1- INDUCTION: Up-regulated by increasing calcium-concentration in the
CC medium and estrogens. Down-regulated by glucocorticoids.
CC -1- PTM: N-glycosylated. Contains sialic acid residues.
CC -1- PTM: The N-terminus is blocked.
CC DISEASE: Defects in TNFRSF11B are the cause of juvenile Paget
CC disease (JPD) [MIM:239000]; also called hyperostosis corticalis
CC deformans juvenilis or hereditary hyperphosphatasia or chronic
CC congenital idiopathic hyperphosphatasia. JPD is a rare autosomal
CC recessive osteopathy that presents in infancy or early childhood.
CC The disorder is characterized by rapidly remodeling woven bone,
CC osteopenia, debilitating fractures, and deformities due to a
CC markedly accelerated rate of bone remodeling throughout the
CC skeleton. Approximately 40 cases of JPD have been reported
CC worldwide. Unless it is treated with drugs that block osteoclast-
CC mediated skeletal resorption, the disease can be fatal.
CC -1- SIMILARITY: Contains 2 death domains.
CC -1- SIMILARITY: Contains 4 TNFR-Cys repeats.

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CC modified and this statement is not removed. Usage by and for commercial
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CC or send an email to license@sib-sib.ch).

EMBL; U94332; AAB53709.1; -;
EMBL; AB002146; BAA25910.1; -;
EMBL; AB008822; BAA32076.1; -;
EMBL; AB008821; BAA32076.1; JOINED.
EMBL; AY466112; AAR23265.1; -;
EMBL; BC030155; AAR30155.1; -;
EMBL; AF134187; AAF20168.1; -;
HSSP; O14763; 1D0G.
Genew; HGNC:11909; TNFRSF11B.
H-InvDB; HIX0007748; -;
MIM; 602643; -;
MIM; 239000; -;
GO; GO:0005576; C:extracellular; TAS.
GO; GO:0005125; F:cytokine activity; TAS.
GO; GO:0004872; P:receptor activity; TAS.
GO; GO:0007165; P:signal transduction; TAS.
GO; GO:0001501; P:skeletal development; TAS.
InterPro; IPR000488; Death.

```
DR InterPro; IPR011029; DEATH like.
DR InterPro; IPR009030; Growth_recept.
Query Match 100.0%; Score 1046; DB 1; Length 401;
Best Local Similarity 100.0%; Pred. No. 6.4e-84;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 ETPFPKYLHYDETSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTOKCGIDVTL 60
DB 22 ETPFPKYLHYDETSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTOKCGIDVTL 81
QY 61 YCSPVKELQYQKQCNTRNHRVCEKGRYLEIEFCLKHSRCPGFGVGVQAGTPERNTV 120
DB 82 YCSPVKELQYQKQCNTRNHRVCEKGRYLEIEFCLKHSRCPGFGVGVQAGTPERNTV 141
QY 121 CKRCPDGFPSNETSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTOKCGIDVTL 180
DB 142 CKRCPDGFPSNETSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTOKCGIDVTL 201
RESULT 2
Q6P112 PRELIMINARY; PRT; 401 AA.
AC Q6P112;
DT 05-JUL-2004 (TrEMBLrel. 27, Created)
DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE Tumor necrosis factor receptor superfamily, member 11b
DE (Osteoprotegerin).
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP TISSUE=Limb;
RC MEDLINE=23388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Kettner M., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grinstead J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA Krywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
RA Jones S.J., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
[2]
RP TISSUE=Limb;
RC TISSUE=Limb;
RA Strausberg R.;
RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; BC049782; AAH49782.1; -.
DR GO; GO:0005578; C:extracellular matrix (sensu Metazoa); IDA.
DR GO; GO:0005615; C:extracellular space; TAS.
DR GO; GO:0042489; P:negative regulation of ontogenesis (sensu . . . IDA.
DR InterPro; IPR000488; Death.
DR InterPro; IPR011029; DEATH like.
DR InterPro; IPR001368; TNFR_c6.
DR Pfam; PF00020; TNFR_c6; 2.
DR SMART; SM00005; DEATH; 1.
DR SMART; SM00208; TNFR; 4.

DR PROSITE; PS50017; DEATH_DOMAIN; 1.
DR PROSITE; PS00652; TNFR_NGFR_1; 1.
DR PROSITE; PS50050; TNFR_NGFR_2; 2.
SQ SEQUENCE 401 AA; 45965 MW; 7C708B52EB46BA0E CRC64;
Query Match 88.8%; Score 929; DB 2; Length 401;
Best Local Similarity 87.8%; Pred. No. 1.2e-73;
Matches 158; Conservative 8; Mismatches 14; Indels 0; Gaps 0;
QY 1 ETPFPKYLHYDETSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTOKCGIDVTL 60
DB 22 ETPFPKYLHYDETSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTOKCGIDVTL 81
QY 61 YCSPVKELQYQKQCNTRNHRVCEKGRYLEIEFCLKHSRCPGFGVGVQAGTPERNTV 120
DB 82 YCSPVKELQYQKQCNTRNHRVCEKGRYLEIEFCLKHSRCPGFGVGVQAGTPERNTV 141
QY 121 CKRCPDGFPSNETSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTOKCGIDVTL 180
DB 142 CKRCPDGFPSNETSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTOKCGIDVTL 201
RESULT 3
T11B_MOUSE
ID T11B_MOUSE STANDARD; PRT; 401 AA.
AC O08712; O70202;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 05-JUL-2004 (Rel. 44, Last annotation update)
DE Tumor necrosis factor receptor superfamily member 11b precursor
DE (Osteoprotegerin) (Osteoclastogenesis inhibitory factor).
GN Name=tnfrsf11b; Synonyms=OCIF, OPG;
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP TISSUE=Kidney;
RC STRAIN=BALB/c; TISSUE=Kidney;
RC MEDLINE=97262071; PubMed=9108485; DOI=10.1016/S0092-8674(00)80209-3;
RA Simonet W.S., Lacey D.L., Dunstan C.R., Kelley M., Chang M.-S.,
RA Luethy R., Nguyen H.Q., Wooden S., Bennett L., Boone T., Shimamoto G.,
RA Derose M., Elliott R., Colombero A., Tan H.-L., Trail G., Sullivan J.,
RA Davy E., Bucsy N., Renshaw-Gegg L., Hughes T.M., Hill D., Pattison W.,
RA Campbell P., Sander S., Van G., Tarpley J., Derby P., Lee R.,
RA Suggs S., Boyle W.J.;
RT "Osteoprotegerin: a novel secreted protein involved in the regulation
RT of bone density";
RL Cell 89:309-319(1997).
[2]
RP TISSUE=Limb;
RC TISSUE=Limb;
RC MEDLINE=21060987; PubMed=10952716;
RA Min H., Morony S., Sarosi I., Dunstan C.R., Capparelli C., Scully S.,
RA Van G., Kaufman S., Kostenuik P.J., Lacey D.L., Boyle W.J.,
RA Simonet W.S.;
RT "Osteoprotegerin reverses osteoporosis by inhibiting endosteal
RT osteoclasts and prevents vascular calcification by blocking a process
RT resembling osteoclastogenesis.";
RL J. Exp. Med. 192:463-474(2000).
CC -!- FUNCTION: Acts as decoy receptor for RANKL and thereby neutralizes
CC its function in osteoclastogenesis. Inhibits the activation of
CC osteoclasts and promotes osteoclast apoptosis in vitro. Bone
```

homeostasis seems to depend on the local RANKL/OPG ratio. May also play a role in preventing arterial calcification. May act as decoy receptor for TRAIL and protect against apoptosis. TRAIL binding blocks the inhibition of osteoclastogenesis.

-!- SUBUNIT: Homodimer.

-!- SUBCELLULAR LOCATION: Secreted.

-!- TISSUE SPECIFICITY: Highly expressed in liver, lung, stomach, intestines and calvaria. Highly expressed in decidua and placenta, and in embryo.

-!- DEVELOPMENTAL STAGE: Detected in embryo at high levels on day 7, whereas expression decreases at day 11 and increases from day 15 to 17. On day 15 found in developing bone primordia, brachiocephalic artery and ductus arteriosus, left main bronchus, abdominal aorta and midgut.

-!- INDUCTION: Up-regulated by TGF-beta and estrogens. Down-regulated by 1,25-dihydroxyvitamin D3 and parathyroid hormone.

-!- SIMILARITY: Contains 2 death domains.

-!- SIMILARITY: Contains 4 TNFR-Cys repeats.

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EMBL; U94331; AAB53708.1; -.
 EMBL; AB013898; BAA28269.1; -.
 EMBL; AB013903; BAA33388.1; -.
 EMBL; AB013899; BAA33388.1; JOINED.
 EMBL; AB013900; BAA33388.1; JOINED.
 EMBL; AB013901; BAA33388.1; JOINED.
 EMBL; AB013902; BAA33388.1; JOINED.
 HSSP; O14763; 1D0G.
 MG; MGI:109587; Tnfrsf11b.
 GO; GO:0005578; C:extracellular matrix; IDA.
 InterPro; IPR004048; Death.
 InterPro; IPR011029; DEATH like.
 InterPro; IPR009030; Grow_fac_recept.
 InterPro; IPR001368; TNFR_c6.
 Pfam; PF00020; TNFR_c6; 3.
 SMART; SM00005; DEATH; 1.
 SMART; SM00208; TNFR; 4.
 PROSITE; PS00017; DEATH DOMAIN; 1.
 PROSITE; PS00652; TNFR_NGFR_1; 1.
 PROSITE; PS00652; TNFR_NGFR_2; 2.
 Apoptosis; Glycoprotein; Polymorphism; Receptor; Repeat; Signal.
 SIGNAL 1 21 By similarity.
 CHAIN 22 401 Tumor necrosis factor receptor superfamily member 11B.

REPEAT 24 62 TNFR-Cys 1.
 REPEAT 65 105 TNFR-Cys 2.
 REPEAT 107 142 TNFR-Cys 3.
 REPEAT 145 185 TNFR-Cys 4.
 DOMAIN 198 269 Death 1.
 DOMAIN 283 365 Death 2.
 SITE 400 400 Involved in dimerization (By similarity).

DISULFID 41 54 By similarity.
 DISULFID 44 62 By similarity.
 DISULFID 65 80 By similarity.
 DISULFID 83 97 By similarity.
 DISULFID 87 105 By similarity.
 DISULFID 107 118 By similarity.
 DISULFID 124 142 By similarity.
 DISULFID 145 160 By similarity.
 DISULFID 166 185 By similarity.
 CARBOHYD 98 165 N-linked (GlcNAc...) (Potential).
 CARBOHYD 165 165 N-linked (GlcNAc...) (Potential).
 CARBOHYD 178 178 N-linked (GlcNAc...) (Potential).
 CARBOHYD 289 289 N-linked (GlcNAc...) (Potential).
 VARIANT 138 138 R -> P (in strain 129/Ola and strain NIH Swiss).

FT VARIANT 161 161 I -> R (in strain 129/Ola and strain NIH Swiss).
 FT VARIANT 165 165 N -> D (in strain 129/Ola and strain NIH Swiss).
 FT VARIANT 288 288 S -> A (in strain 129/Ola and strain NIH Swiss).
 FT VARIANT 296 296 L -> R (in strain 129/Ola and strain NIH Swiss).
 SQ SEQUENCE 401 AA; 45923 MW; CAA6102D3B312470 CRC64;
 Query Match 88.4%; Score 925; DB 1; Length 401;
 Best Local Similarity 87.8%; Pred. No. 2.8e-73;
 Matches 158; Conservative 7; Mismatches 15; Indels 0; Gaps 0;
 QY 1 ETTPPKYLHYDEITSHOLLCDKCPGGTYLKQHTAKWTKVCAPCPDHYHSDSHWTSDECL 60
 DB 22 ETLPKYLHYDPTGTHOLLCDKCAPGTYLKQHTVRKTLVCPDHSYDSDSHWTSDECV 81
 QY 61 YCSPVCKELQYVQECNRTHRVCECKEGRYLEFCLKHSRCPGPGVVOAGTPERNTV 120
 DB 82 YCSPVCKELQSVQECNRTHRVCECEGRYLEFCLKHSRCPGPGVVOAGTPERNTV 141
 QY 121 CKCPDGFNFSNRSKAPCRKHTNCSVFGILLTKGNATHDNCNSESSTOKCGIDVTL 180
 DB 142 CKCPDGFNFSSTKAPCIKHTNCSTFGILLTKGNATHDNCNSESSTOKCGIDVTL 201
 RESULT 4
 T11B RAT STANDARD; PRT; 401 AA.
 AC 008727;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 05-JUL-2004 (Rel. 44, Last annotation update)
 DE tumor necrosis factor receptor superfamily member 11B precursor (Osteoprotegerin).
 DE Name=Tnfrsf11b; Synonyms=Opg;
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Embryonic intestine;
 RX MEDLINE=97262071; PubMed=9108485; DOI=10.1016/S0092-8674(00)80209-3;
 RA Simonet W.S., Lacey D.L., Dunstan C.R., Kelley M., Chang M.-S., Luthy R., Nguyen H.O., Wooden S., Bennett L., Boone T., Shimamoto G., Derose M., Elliott R., Colombero A., Tan H.-L., Trail G., Sullivan J., Davy B., Bucay N., Renshaw-Gegg L., Hughes T.M., Hill D., Pattison W., Campbell P., Sander S., Van G., Tarpley J., Derby P., Lee R., Suggs S., Boyle W.J.;
 RA "Osteoprotegerin: a novel secreted protein involved in the regulation of bone density.";
 RT Cell 89:309-319(1997).
 RL Cell 89:309-319(1997).
 CC -!- FUNCTION: Acts as decoy receptor for RANKL and thereby neutralizes its function in osteoclastogenesis. Inhibits the activation of osteoclasts and promotes osteoclast apoptosis. Bone homeostasis seems to depend on the local RANKL/OPG ratio. May also play a role in preventing arterial calcification. May act as decoy receptor for TRAIL and protect against apoptosis. TRAIL binding blocks the inhibition of osteoclastogenesis (By similarity).
 CC -!- SUBUNIT: Homodimer (By similarity).
 CC -!- INDUCTION: Up-regulated by osteopontin.
 CC -!- SIMILARITY: Contains 2 death domains.
 CC -!- SIMILARITY: Contains 4 TNFR-Cys repeats.
 CC -----
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or send an email to license@isb-sib.ch).
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CC EMBL; U94330; AAB53707.1; -.
CC HSSP; P19438; INCF.
DR RGD; 619802; Tnfrsf11b.
DR InterPro; IPR000488; Death.
DR InterPro; IPR011029; DEATH_like.
DR InterPro; IPR009030; Grow_fac_recept.
DR InterPro; IPR001368; TNFR_c6.
DR Pfam; PF00020; TNFR_c6; 4.
DR SMART; SM00005; DEATH; 1.
DR SMART; SM00208; TNFR; 4.
DR PROSITE; PS0017; DEATH_DOMAIN; FALSE_NEG.
DR PROSITE; PS00552; TNFR_NGFR_1; 1.
DR PROSITE; PS00550; TNFR_NGFR_2; 2.
KW Apoptosis; Cytokine; Glycoprotein; Repeat; Signal.
FT SIGNAL 1 21
FT CHAIN 22 401
FT REPEAT 24 62
FT REPEAT 65 105
FT REPEAT 107 142
FT REPEAT 145 185
FT REPEAT 198 269
FT DOMAIN 270 365
FT SITE 400 400
FT DISULFID 41 54
FT DISULFID 44 62
FT DISULFID 65 80
FT DISULFID 83 97
FT DISULFID 87 105
FT DISULFID 107 118
FT DISULFID 124 142
FT DISULFID 145 160
FT DISULFID 166 185
FT CARBOHYD 98 98
FT CARBOHYD 165 165
FT CARBOHYD 178 178
FT CARBOHYD 289 289
SQ SEQUENCE 401 AA; 46192 MW; FEC6A31F1D4E573A CRC64;

Query Match 87.2%; Score 912; DB 1; Length 401;
Best Local Similarity 86.1%; Pred. No. 3.9e-72;
Matches 155; Conservative 9; Mismatches 16; Indels 0; Gaps 0;

Qy 1 ETFFPKYLHYDEETSHOLLCDKCPGTYLKQHTAKWKTVCAPCPDHYTDSWHTSDCL 60
Db 22 ETFFPKYLHYDPETGRQLLCKCARGTYLKQHTVRRKTLVCPDYSYTDWHTSDCV 81

Qy 61 YCSPVKELQVYKQECNTHNRVCECKEGRYLETFCLKHSRCPGFGVQAGTPERNTV 120
Db 82 YCSPVKELQVYKQECNTHNRVCECKEGRYLETFCLKHSRCPGFGVQAGTPERNTV 141

Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNICSGNSESQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNICSGNREATQNCIDVTL 201

RESULT 5
Q6GLN3
ID Q6GLN3 PRELIMINARY; PRT; 387 AA.
AC Q6GLN3;
DT 05-JUL-2004 (TrEMBLrel. 27, Created)
DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DE MGC84670 protein.
GN Name=MGC84670;
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidae; Pipidae;
OC Xenopodinae; Xenopus.
OX NCBI_TaxID=8355;
RN [1]

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RP SEQUENCE FROM N.A.
RC TISSUE=Eye;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Klausner R.D., Feingold E.A., Grouse L.H., Derge J.G.,
RA Altachul S.F., Zeeberg B., Busto K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hong L.,
RA Diatchenko L., Maruina K., Farmer A.A., Rubin G.M., Hsieh F.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Kettman M., Madan A.C., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA Krzywinski M.I., Skalska U., Smalus D.E., Schnerch A., Schein J.E.,
RA Jones S.J., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Eye;
RX MEDLINE=22341132; PubMed=12454917; DOI=10.1002/dvdy.10174;
RA Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,
RA Richardson P.;
RT "Genetic and genomic tools for Xenopus research: The NIH Xenopus
initiative.";
RL Dev. Dyn. 225:384-391(2002).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Eye;
RX Klein S., Gerhard D.S.;
RL Submitted (JUN-2004) to the EMBL/GenBank/DBJ databases.
DR EMBL; BC074428; AAH74428.1; -.
DR GO; GO:0004872; F:receptor activity; IEA.
DR InterPro; IPR006209; EGF like.
DR InterPro; IPR001368; TNFR_c6.
DR Pfam; PF00020; TNFR_c6; 2.
DR SMART; SM00208; TNFR; 4.
DR PROSITE; PS01186; EGF_2; UNKNOWN_1.
DR PROSITE; PS00652; TNFR_NGFR_1; UNKNOWN_1.
DR PROSITE; PS00050; TNFR_NGFR_2; 2.
SQ SEQUENCE 387 AA; 44568 MW; F365C364A11484AA CRC64;

Query Match 56.2%; Score 597.5; DB 2; Length 387;
Best Local Similarity 53.7%; Pred. No. 1.3e-43;
Matches 95; Conservative 30; Mismatches 49; Indels 3; Gaps 1;

Qy 4 PPKYLHYDEETSHOLLCDKCPGTYLKQHTAKWKTVCAPCPDHYTDSWHTSDCLYCS 63
Db 24 PPKYSHDPTSMYTLQCDHCPGTYLVQDCSTKNTKTECAPCPSHYNDRWNSTEQCFCN 83

Qy 64 PVCKELQVYKQECNTHNRVCECKEGRYLETFCLKHSRCPGFGVQAGTPERNTVCKR 123
Db 84 VVCKELQVYKQECNTHNRVCECKEGRYLETFCLKHSRCPGFGVQAGTPESDTCVRP 143

Qy 124 CPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNICSGNSESQKCGIDVTL 180
Db 144 CPEGTFSDTSATARCQKHTDCKLGIKVAYQGSDDHTLQCPQSGF---CEIDITL 197

RESULT 6
Q7ZZY4
ID Q7ZZY4 PRELIMINARY; PRT; 146 AA.
AC Q7ZZY4;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE Osceoprotegerin (Fragment).

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GN Name=OPG;
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=22760275; PubMed=12878204; DOI=10.1016/S0006-291X(03)01304-4;
RA Bridgham J.T., Johnson A.L.;
RT "Characterization of chicken TNFR superfamily decoy receptors, DcR3
RL Biochem. Biophys. Res. Commun. 307:956-961(2003).
DR EMBL; AY251407; AAP03890.1; -.
DR HSP; O14763; 1D4V.
DR GO; GO:0004872; F:receptor activity; IEA.
DR InterPro; IPR006209; EGF-like.
DR InterPro; IPR001368; TNFR_c6.
DR Pfam; PF00020; TNFR_c6; 2.
DR SMART; SM00208; TNFR; 3.
DR PROSITE; PS01186; EGF_2; UNKNOWN 1.
DR PROSITE; PS00652; TNFR_NGFR_1; 1.
DR PROSITE; PS00050; TNFR_NGFR_2; 2.
FT NON TER 146
SQ SEQUENCE 146 AA; 16487 MW; 1C9E64FE3A0FC2DF CRC64;

Query Match 50.2%; Score 525; DB 2; Length 146;
Best Local Similarity 69.7%; Pred. No. 1.5e-38;
Matches 85; Conservative 14; Mismatches 23; Indels 0; Gaps 0;

Qy 4 PPKYLYHDEETSHQLCDKCPGTYLKQHCTAKWKTCAPCPDHYHDTSDWHTSDECLYCS 63
Db 25 PPKYLYHDPGTSRQVMCMCPGPGSVVQHCCTAASTPTVCAPCPDQYYAEDMNSNDECQYCS 84

Qy 64 PVCKELQYVQECNRTNHRVCECKEGRYLEIFCLKHSRCPGPGVQAGTPERTYCKR 123
Db 85 AVCKELQYIKOECTSTQDRVCECIEGWYLELEFCLKHTCEPFGVAGPQGTPESDTYCFC 144

Qy 124 CP 125
Db 145 CP 146

RESULT 7
Q7ZZY5 PRELIMINARY; PRT; 186 AA.
AC Q7ZZY5;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE Decoy receptor 3 (Fragment).
GN Name=DcR3.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=22760275; PubMed=12878204; DOI=10.1016/S0006-291X(03)01304-4;
RA Bridgham J.T., Johnson A.L.;
RT "Characterization of chicken TNFR superfamily decoy receptors, DcR3
RL Biochem. Biophys. Res. Commun. 307:956-961(2003).
DR EMBL; AY251406; AAP03889.1; -.
DR HSP; O14763; 1DU3.
DR GO; GO:0004872; F:receptor activity; IEA.
DR InterPro; IPR006209; EGF like.
DR InterPro; IPR001368; TNFR_c6.
DR Pfam; PF00020; TNFR_c6; 1.
DR SMART; SM00208; TNFR; 4.
DR PROSITE; PS01186; EGF_2; UNKNOWN 1.
DR PROSITE; PS00652; TNFR_NGFR_1; 1.
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DR PROSITE; PS00050; TNFR_NGFR_2; 1.
KW Receptor.
FT NON TER 186
SQ SEQUENCE 186 AA; 20671 MW; 31D65731DACB758E CRC64;

Query Match 43.0%; Score 450; DB 2; Length 186;
Best Local Similarity 48.7%; Pred. No. 7.5e-32;
Matches 75; Conservative 24; Mismatches 55; Indels 0; Gaps 0;

Qy 4 PPKYLYHDEETSHQLCDKCPGTYLKQHCTAKWKTCAPCPDHYHDTSDWHTSDECLYCS 63
Db 32 PPTQWRDAGTKERVTCQQCPGTFVAQHCTKERTVCACPDLDHYTHYWNLYEKLYCN 91

Qy 64 PVCKELQYVQECNRTNHRVCECKEGRYLEIFCLKHSRCPGPGVQAGTPERTYCKR 123
Db 92 VXCGERQVEVQCCNATHNRACQCEGPHAEFVQHSXEXXPGSGVVKLGSPSENTQCR 151

Qy 124 CPDGFSSNETSSKAPCKHTNCSVFGLLLTQKN 157
Db 152 CPRGSFSSSSSTPCFRAHQNTQLGKETNVPGN 185

RESULT 8
TR6B HUMAN STANDARD; PRT; 300 AA.
AC O95407;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 03-JUN-2004 (Rel. 44, Last annotation update)
DE Tumor necrosis factor receptor superfamily member 6B precursor (Decoy
DE receptor for Fas ligand) (Decoy receptor 3) (DcR3) (M68)
DE (UNQ186/PRO212).
DE Name=TNFRSF6B; Synonyms=DCR3, TR6;
OS Homo sapiens (Human)
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Fetal lung;
RX MEDLINE=99087326; PubMed=9872321; DOI=10.1038/25387;
RA Pitti R.M., Marsters S.A., Lawrence D.A., Roy M., Kischkel F.C.,
RA Dowd P., Huang A., Donahue C.J., Sherwood S.W., Baldwin D.T.,
RA Godowski P.J., Wood W.I., Gurney A.L., Hillan K.J., Cohen R.L.,
RA Goddard A.D., Botstein D., Ashkenazi A.;
RT "Genomic amplification of a decoy receptor for Fas ligand in lung and
RT colon cancer.";
RL Nature 396:699-703(1998).
RN [2]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 30-35.
RC TISSUE=Prostate;
RX MEDLINE=99253915; PubMed=10318773; DOI=10.1074/jbc.274.20.13733;
RA Yu K.-Y., Kwon B., Ni J., Zhai Y., Ebner R., Kwon B.S.;
RT "A newly identified member of tumor necrosis factor receptor
RT superfamily (TR6) suppresses LIGHT-mediated apoptosis.";
RL J. Biol. Chem. 274:13733-13736(1999).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Lung;
RX MEDLINE=20122600; PubMed=10655513; DOI=10.1073/pnas.97.3.1230;
RA Bai C., Connolly B., Metzker M.L., Hilliard C.A., Liu X., Sandig V.,
RA Soderman A., Galloway S.M., Liu Q., Austin C.P., Caskey C.T.;
RT "Overexpression of M68/DcR3 in human gastrointestinal tract tumors
RT independent of gene amplification and its location in a four-gene
RT cluster.";
RL Proc. Natl. Acad. Sci. U.S.A. 97:1230-1235(2000).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=22887296; PubMed=12975309; DOI=10.1101/gr.1293003;
RA Clark H.F., Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J.,
RA Chen J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd P.,
RA Eaton D., Foster J., Grimaldi C., Gu Q., Hass P.E., Heldens S.,
RA Huang A., Kim H.S., Klimowski L., Jin Y., Johnson S., Lee J.,
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RA Lewis L., Liao D., Mark M., Robbie E., Sanchez C., Schoenfeld J.,
RA Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A.,
RA Vandlen R., Watanabe C., Weiland D., Woode K., Xie M.-H., Yansura D.,
RA Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I.,
RA Godowski P., Gray A.,
RT "The secreted protein novel human secreted and transmembrane proteins: a
RT effort to identify novel human secreted and transmembrane proteins: a
RT bioinformatics assessment".
RL Genome Res. 13:2265-2270(2003).
RN [5]
RP SEQUENCE FROM N.A.
RX MEDLINE=21638749; PubMed=11780052; DOI=10.1038/414865a;
RA Deloukas P., Matthews L.H., Ashurst J.L., Burton J., Gilbert J.G.R.,
RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Coulson A., Coville G.J., Deadman R., Dhani P.D., Dunn M.,
RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
RA Grahnam D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Lehaealaho M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
RA Marsh V.L., Martin S.L., McConachie L.J., McLeay K., McMurray A.,
RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,
RA Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Showkeen R., Sims S.,
RA Skuce C.D., Smith M.B., Soderlund C., Steward C.A., Sulston J.E.,
RA Swann R.M., Sycamore N., Taylor M., Tee L., Thomas D.W., Thorpe A.,
RA Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,
RA Whitehead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A.,
RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
RA Rogers J.,
RT "The DNA sequence and comparative analysis of human chromosome 20";
RL Nature 414:865-871(2001).
RN [6]
RP SEQUENCE FROM N.A.
RX TISSUE=Lung, and Skin;
RC MEDLINE=22389257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Ustin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Kettelman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield V.S.N., Krzywinski M.I., Skalska U., Smallos D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.,
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences".
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC -!- FUNCTION: Decoy receptor for the cytotoxic ligands TNFSF14/LIGHT
CC and TNFSF6/FASL. Protects against apoptosis.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Detected in fetal lung, brain and liver.
CC Detected in adult stomach, spinal cord, lymph node, trachea,
CC spleen, colon and lung. Highly expressed in several primary tumors
CC from colon, stomach, rectum, esophagus and in SW480 colon
CC carcinoma cells.
CC -!- SIMILARITY: Contains 4 TNFR-Cys repeats.

RESULT 9

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CC -----
DR EMBL; AF104419; AAD03056.1; -
DR EMBL; AF134240; AAD29688.1; -
DR EMBL; AF217796; AAF35244.1; -
DR EMBL; AF217793; AAF33685.1; -
DR EMBL; AF217794; AAF33686.1; -
DR EMBL; AY358279; AAQ88646.1; -
DR EMBL; AL121845; CAC03668.1; -
DR EMBL; BC017065; AAH17065.1; -
DR EMBL; BC034349; AAH34349.1; -
DR HSP; O14763; 1DU3.
DR Genew; HGNC:11921; TNFRSF6B.
DR H-InvDB; HIX0016007; -
DR MIM; 603361; -
DR GO; GO:0005625; C:soluble fraction; TAS.
DR GO; GO:0004872; F:receptor activity; TAS.
DR GO; GO:0006916; P:anti-apoptosis; TAS.
DR InterPro; IPR009030; GROW_fac_recept.
DR InterPro; IPR001368; TNFR_c6.
DR Pfam; PF00020; TNFR_c6; 4.
DR SMART; SM00208; TNFR; 4.
DR PROSITE; PS00652; TNFR_NGFR_1; 1.
DR PROSITE; PS00500; TNFR_NGFR_2; 2.
KW Apoptosis; Direct protein sequencing; Glycoprotein; Receptor; Repeat;
KW Signal.
FT SIGNAL 1 29
FT CHAIN 30 300 Tumor necrosis factor receptor
FT REPEAT 31 70 superfamily member 6B.
FT REPEAT 72 113 TNFR-Cys 1.
FT REPEAT 115 150 TNFR-Cys 2.
FT REPEAT 152 193 TNFR-Cys 3.
FT DISULFID 49 62 By similarity.
FT DISULFID 52 70 By similarity.
FT DISULFID 73 88 By similarity.
FT DISULFID 91 105 By similarity.
FT DISULFID 95 113 By similarity.
FT DISULFID 115 126 By similarity.
FT DISULFID 132 150 By similarity.
FT DISULFID 153 168 By similarity.
FT DISULFID 174 193 By similarity.
FT CARBOHYD 173 173 N-linked (GlcNAc...) (Potential).
SQ SEQUENCE 300 AA; 32679 MW; F90AE33718449AF CRC64;
Query Match 41.4%; Score 433.5; DB 1; Length 300;
Best Local Similarity 39.1%; Pred. No. 3.5e-30;
Matches 72; Conservative 32; Mismatches 69; Indels 11; Gaps 1;
Qy 5 PKYLYDEETSHQLDKCPGTVLKQHTAKVTVCAPCPDHYTDSWHTSDECLYCSP 64
Db 34 PTPWRDAETGERLVCAQCPGTVQVPCRRDSPTTCGCPPHRYTQFWNYLRCRYCNV 93
Qy 65 VKELQYVKQECNTHNRVCEKGRVLEIFELCKHRSCEPGFGVVOAGTPTERTVCKRC 124
Db 94 LCGREBEARACHATHNRACRRTGFFAHAGFCLEHASCPPGAGVIAPGTFSQNTQCPC 153
Qy 125 PDGFFSNETSKAPCRKHTNCSVFGLLLTKGNATHONICSG-----NSESTQK 173
Db 154 PGTFSASSSSSEQCPHRCNTALGLALNVGSSSHDTLCTCTCTGFFPLSTRVPGAECEC 213
Qy 174 CGID 177
Db 214 AVID 217

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Q9PUS0
ID AC Q9PUS0 PRELIMINARY; PRT; 302 AA.
DT 01-MAY-2000 (Tremblrel. 13, Created)
DT 01-MAY-2000 (Tremblrel. 13, Last sequence update)
DT 01-MAR-2004 (Tremblrel. 26, Last annotation update)
DE Decoy TNF receptor.
OS Salvelinus fontinalis (Brook trout) (Brook char).
OC Eukaryota, Metazoa, Chordata, Craniata, Vertebrata; Euteleostomi;
OC Actinopterygii, Neopterygii, Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Salvelinus.
OX NCBI_TaxID=8038;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=20111091; PubMed=10642582;
RA Bobe J., Goetz F.W.;
RT "A tumor necrosis factor decoy receptor homologue is up-regulated in
RT the brook trout (Salvelinus fontinalis) ovary at the completion of
RT ovulation.";
RL Biol. Reprod. 62:420-426(2000).
DR EMBL; AF156738; AAD56428.1; -.
DR HSSP; O14763; ID4V.
DR GO; GO:0004872; F:receptor activity; IEA.
DR InterPro; IPR006209; EGF like.
DR InterPro; IPR001368; TNFR_c6.
DR Pfam; PF00020; TNFR_c6; 1.
DR SMART; SM00208; TNFR; 4.
DR PROSITE; PS01186; EGF_2; 1.
DR PROSITE; PS00652; TNFR_NGFR_1; UNKNOWN_1.
DR PROSITE; PS50050; TNFR_NGFR_2; 1.
KW Receptor.
SQ SEQUENCE 302 AA; 34037 MW; E44C73477F05C3DF CRC64;

Query Match 38.8%; Score 405.5; DB 2; Length 302;
Best Local Similarity 45.2%; Pred. No. 1e-27;
Matches 71; Conservative 30; Mismatches 53; Indels 3; Gaps 2;

Qy 11 DEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYTDSWHTSDECLYCSPVKELQ 70
Db 27 DRYSGLSIVCDPCPGTYLRAPCSMKSDCAECNGAYTEFWNHISKLCRS-MCAENQ 85

Qy 71 YVKEQCNRTNHRVCEKGRYLE--EIEFCLKHRSRCPGFGVGVQAGTPERNTVCKRCPDGF 128
Db 86 VVKQECSPNCECEKGRYYFNKKYKACIRKKECPGYGANTTGTPHQDTECVQCQAGF 145

Qy 129 PSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 165
Db 146 YSEVSSAKATCLAQSNCKVGGRLRVVLKGQDWHNTLCA 182

RESULT 10
Q90W71 ID Q90W71 PRELIMINARY; PRT; 285 AA.
AC Q90W71;
DT 01-DEC-2001 (Tremblrel. 19, Created)
DT 01-DEC-2001 (Tremblrel. 19, Last sequence update)
DT 01-MAR-2004 (Tremblrel. 26, Last annotation update)
DE Putative decoy receptor 3 protein.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota, Metazoa, Chordata, Craniata, Vertebrata; Euteleostomi;
OC Actinopterygii, Neopterygii, Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE=Head kidney;
RA Pleguezuelos O., Secombes C.J.;
RT Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AJ315137; CAC43329.1; -.
DR HSSP; O14763; IDQG.
DR GO; GO:0004872; F:receptor activity; IEA.
DR Pfam; PF00020; TNFR_c6; 2.
DR SMART; SM00208; TNFR; 3.

Query Match 35.3%; Score 369; DB 2; Length 285;
Best Local Similarity 41.6%; Pred. No. 1.5e-24;
Matches 67; Conservative 22; Mismatches 70; Indels 2; Gaps 1;

Qy 5 PKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYTDSWHTSDECLYCSP 64
Db 29 PTYIWRDDATGDSLTCDCAPGTYLLKHKTKDRKSDCGPCPKSHYTIWNIYIERCQYCN 88

Qy 65 VKELQYVKEQCNRTNHRVCEKGRYLEIEFCLKHRSRCPGFGVGVQAGTPERNTVCKRC 124
Db 89 FCTADEIESVPTQLHNRQCEKDGFWTHGSCSRHRRCPPGEGVINSNGTAHTDVCKEPC 148

125 PDGFFSNSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 165
149 PVGFFSAVSSSRKACQKFSVCPG--TTIPGNDMNDVYCS 187

RESULT 12
Q90YS6 ID Q90YS6 PRELIMINARY; PRT; 285 AA.
AC Q90YS6;
DT 01-DEC-2001 (Tremblrel. 19, Created)
DT 01-DEC-2001 (Tremblrel. 19, Last sequence update)
DT 01-MAR-2004 (Tremblrel. 26, Last annotation update)
DE TNF decoy receptor.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota, Metazoa, Chordata, Craniata, Vertebrata; Euteleostomi;
OC Actinopterygii, Neopterygii, Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21883732; PubMed=11886174; DOI=10.1006/cyto.2001.0979;
RA Liu L., Fujiki K., Dixon B., Sundick R.S.;
RT "Cloning of a novel rainbow trout (Oncorhynchus mykiss) CC chemokine
RT with a fractalkine-like stalk and a TNF decoy receptor using cDNA
RT fragments containing AU-rich elements.";
RL Cytokine 17:71-81(2002).
DR EMBL; AF401631; AAK91758.1; -.
DR HSSP; O14763; IDQG.
DR GO; GO:0004872; F:receptor activity; IEA.
DR Pfam; PF00020; TNFR_c6; 2.
DR SMART; SM00208; TNFR; 3.
DR PROSITE; PS01186; EGF_2; UNKNOWN_1.
DR PROSITE; PS00652; TNFR_NGFR_1; UNKNOWN_1.
DR PROSITE; PS50050; TNFR_NGFR_2; 1.
KW Receptor.
SQ SEQUENCE 285 AA; 31795 MW; 5E3BD1B6EFC6BABC CRC64;

Query Match 35.3%; Score 369; DB 2; Length 285;
Best Local Similarity 41.6%; Pred. No. 1.5e-24;
Matches 67; Conservative 22; Mismatches 70; Indels 2; Gaps 1;

Qy 5 PKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYTDSWHTSDECLYCSP 64
Db 29 PTYIWRDDATGDSLTCDCAPGTYLLKHKTKDRKSDCGPCPKSHYTIWNIYIERCQYCN 88

Qy 65 VKELQYVKEQCNRTNHRVCEKGRYLEIEFCLKHRSRCPGFGVGVQAGTPERNTVCKRC 124
Db 89 FCTADEIESVPTQLHNRQCEKDGFWTHGSCSRHRRCPPGEGVINSNGTAHTDVCKEPC 148

125 PDGFFSNSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 165
149 PVGFFSAVSSSRKACQKFSVCPG--RTTIPGNDMNDVYCS 187

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Q6NW61
ID Q6NW61 PRELIMINARY; PRT; 286 AA.
AC Q6NW61
DT 05-JUL-2004 (TrEMBLrel. 27, Created)
DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE LOC407674 protein (Fragment).
GN Name=LOC407674;
OS Brachydanio rerio (Zebrafish) (Danio rerio).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Danio.
OX NCBI_TaxID=7955;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Embryo;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hong F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.P., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Locuallano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahy J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
RA Jones S.J., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RL and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Embryo;
RA Strausberg R.;
RL Submitted (MAR-2004) to the EMBL/GenBank/DBJ databases.
DR GO; GO:0004872; F:receptor activity; IEA.
DR InterPro; IPR006209; EGF like.
DR Pfam; PF00020; TNFR_c6; 2.
DR SMART; SM00208; TNFR; 4.
DR PROSITE; PS01186; EGF_2; UNKNOWN_1.
DR PROSITE; PS00652; TNFR_NGFR_1; UNKNOWN_1.
DR PROSITE; PS00500; TNFR_NGFR_2; 1.
FT NON_TER 1
SQ SEQUENCE 286 AA; 32275 MW; 9F43DC5FAC4E7B7B CRC64;

Query Match 34.4%; Score 360; DB 2; Length 286;
Best Local Similarity 44.0%; Pred. No. 9.6e-24;
Matches 70; Conservative 21; Mismatches 66; Indels 2; Gaps 2;

QY 7 YLHVDEETSHQLLCKPCPGTYLKQHCCTAKWTKVCAPCPDHYTDSMHTSDECLYCSPVC 66
DB 18 YRRKDPETGRTELCARCAPGSLRQHCSSRSQTECSPGPGNYTFWNYIPDCLLDCS-C 76

QY 67 KELQVQKQECNRTHNRVCECKEGRYLEIFECFLKHSRCPGPGVQAGTPERTNVCRCPD 126
DB 77 AEHQRVQPCNGLIANTVCECEGFWYEQHFCKRRHSVCRPGHGVKTAGTGYSDTVCEACAE 136

QY 127 GFFSNSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 165
DB 137 GHFSDATKAHQCKVHRVQCGEEHLLT-SGNTHYNSICT 174

RESULT 13
Q62327

ID Q62327 PRELIMINARY; PRT; 459 AA.
AC Q62327;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Tumour necrosis factor receptor 2 protein (Fragment).
GN Name=Tnfrsf1b;
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=NOD;
RA Powell E.E., Wicker L.S., Peterson L.B., Todd J.A.;
RT "Amino acid variation in the tumor Necrosis factor receptor 2 is
RL linked to autoimmune diabetes in NOD mice.";
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=NOD;
RX MEDLINE=95178848; PubMed=7873884;
RA Powell E.E., Wicker L.S., Peterson L.B., Todd J.A.;
RT "Allelic variation of the type 2 tumor necrosis factor receptor
RL gene.";
RL Mamm. Genome 5:726-727(1994).
DR EMBL; X76401; CAA53981.1; -.
DR PIR; I48854; I48854.
DR HSP; P19438; INCF.
DR MGD; MGI:1314883; Tnfrsf1b.
DR GO; GO:0005635; C:extracellular space; TAS.
DR GO; GO:0016021; C:integral to membrane; TAS.
DR GO; GO:0008283; P:cell proliferation; TAS.
DR GO; GO:0007166; P:cell surface receptor linked signal transdu. .; IMP.
DR GO; GO:0006954; P:inflammatory response; IMP.
DR GO; GO:0008220; P:necrosis; IMP.
DR InterPro; IPR001368; TNFR_c6.
DR Pfam; PF00020; TNFR_c6; 2.
DR SMART; SM00208; TNFR; 4.
DR PROSITE; PS00652; TNFR_NGFR_1; 2.
DR PROSITE; PS00500; TNFR_NGFR_2; 3.
KW Receptor.
FT NON_TER 1
SQ SEQUENCE 459 AA; 48686 MW; 6C51D2CF1C4626DF CRC64;

Query Match 31.8%; Score 332.5; DB 2; Length 459;
Best Local Similarity 38.3%; Pred. No. 4.1e-21;
Matches 64; Conservative 20; Mismatches 70; Indels 13; Gaps 3;

QY 9 HYDEETSHQLLCKPCPGTYLKQHCCTAKWTKVCAPCPDHYTDSMHTSDECLYCSPVC 68
DB 31 YYDRKA--QMCCAKCPGQYVYKFCNKTSITVCADCEASMTQVMNQFRTCLCSSSCST 88

QY 69 LQYVQKQECNRTHNRVCECKEGRYLEIEF-----CLKHRSCTPGPGVQAGTPERTNVC 121
DB 89 DQVETRACTKQONRVCAEGRYCALKTHSSGRCQMLSKCGPGFGVASSRAPNGNVL 148

QY 122 KRCPDGFFSNSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 168
DB 149 KACAPGTFSDTTSDDVCRPHRISILAI-----PGNASTDAVCAPE 191

RESULT 14
ID TRIB_HUMAN STANDARD; PRT; 461 AA.
AC P20333; Q16042; Q6YI29; Q9UIH1;
DT 01-FEB-1991 (Rel. 17, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 25-JAN-2005 (Rel. 46, Last annotation update)
DE Tumour necrosis factor receptor superfamily member 1B precursor (Tumor
DE necrosis factor receptor 2) (TNF-R2) (Tumor necrosis factor receptor
DE type-II) (p75) (p80 TNF-alpha receptor) (CD120b) (Etanercept)
DE [Contains: Tumor necrosis factor binding protein 2 (TNFPI1) (TNF-2)].
```

GN Name=TNFRSF1B; Synonyms=TNFR, TNFR2;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RX MEDLINE=90260639; PubMed=2160731;
RA Smith C.A., Davis T., Anderson D., Solam L., Beckmann M.P., Jerzy R.,
RA Dower S.K., Cosman D., Goodwin R.G.;
RT "A receptor for tumor necrosis factor defines an unusual family of
RT cellular and viral proteins.";
RL Science 248:1019-1023(1990).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM 1), AND VARIANT ARG-196.
RX MEDLINE=91045991; PubMed=2172983;
RA Kohno T., Brewer M.T., Baker S.L., Schwartz P.E., King M.W.,
RA Hale K.K., Squires C.H., Thompson R.C., Vannice J.L.;
RT "A second tumor necrosis factor receptor gene product can shed a
RT naturally occurring tumor necrosis factor inhibitor.";
RL Proc. Natl. Acad. Sci. U.S.A. 87:8331-8335(1990).
RN [3]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RX MEDLINE=96299745; PubMed=8661109; DOI=10.1006/geno.1996.0327;
RA Beltinger C.P., White P.S., Maris J.M., Sulman E.P., Jensen S.J.,
RA Lepaslier D., Stallard B.J., Goeddel D.V., Desauvage F.J.,
RA Brodeur G.M.;
RT "Physical mapping and genomic structure of the human TNFR2 gene.";
RL Genomics 35:94-100(1996).
RN [4]
RP SEQUENCE FROM N.A. (ISOFORM 2), SUBCELLULAR LOCATION, AND FUNCTION OF
RP ISOFORM 2.
RX PubMed=14688072; DOI=10.1093/intimm/dxh014;
RA Lainez B., Fernandez-Real J.M., Romero X., Esplugues E., Canete J.D.,
RA Ricart W., Engel P.;
RT "Identification and characterization of a novel spliced variant that
RT encodes human soluble tumor necrosis factor receptor 2.";
RL Int. Immunol. 16:169-177(2004).
RN [5]
RP SEQUENCE FROM N.A., AND VARIANTS MET-187; ARG-196; LYS-232; THR-236;
RP PRO-264 AND ARG-295.
RA Rieder M.-J., Livingston R.J., Daniels M.R., Chung M.-W.,
RA Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D.,
RA Schackwitz W.S., Sherwood J.K., Witrak L.A., Nickerson D.A.;
RT "NIHES-SNPs, environmental genome project, NIHES ES15478, Department
RT of Genome Sciences, Seattle, WA (URL: <http://egp.gs.washington.edu>).";
RL Submitted (MAR-2003) to the ENBL/GenBank/DBJ databases.
RN [6]
RP SEQUENCE FROM N.A., AND VARIANTS ARG-196; LYS-232; PRO-269 AND
RP ARG-301.
RA Rieder M.-J., Carrington D.P., da Ponte S.H., Hastings N.C.,
RA Ahearn M.O., Kuldanek S.A., Rajkumar N., Toth E.J., Yi Q.,
RA Nickerson D.A.;
RT "SeattleSNPs, NHLBI HL66682 program for genomic applications, UW-
RT FHCR, Seattle, WA (URL: <http://pga.gs.washington.edu>).";
RL Submitted (JUL-2003) to the ENBL/GenBank/DBJ databases.
RN [7]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RP TISSUE=PNS;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan B., Moore T., Max S.I., Wang J., Haieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raba S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Huiyk S.W.,
RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Kettner M., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smallos D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [8]
RP SEQUENCE OF 37-461 FROM N.A. (ISOFORM 1).
RX MEDLINE=91370690; PubMed=1966549; DOI=10.1016/1043-4666(90)90022-L;
RA Dembic Z., Loeschner H., Gubler U., Pan Y.C., Lahm H.-W., Gentz R.,
RA Brockhaus M., Lesslauer W.;
RT "Two human TNF receptors have similar extracellular, but distinct
RT intracellular, domain sequences.";
RL Cytokine 2:231-237(1990).
RN [9]
RP SEQUENCE OF 116-461 FROM N.A. (ISOFORM 1), PARTIAL SEQUENCE, AND
RP VARIANT ARG-196.
RX MEDLINE=90349572; PubMed=2166946;
RA Heller R.A., Song K., Onasch M.A., Fischer W.H., Chang D.,
RA Ringold G.M.;
RT "Complementary DNA cloning of a receptor for tumor necrosis factor and
RT demonstration of a shed form of the receptor.";
RL Proc. Natl. Acad. Sci. U.S.A. 87:6151-6155(1990).
RN [10]
RP SEQUENCE OF 154-183 FROM N.A., AND VARIANTS ARG-196 AND LYS-232.
RX MEDLINE=21069356; PubMed=11197692; DOI=10.1038/sj.gene.6363700;
RA Tsuchiya N., Komata T., Matsushita M., Ohashi J., Tokunaga K.;
RT "New single nucleotide polymorphisms in the coding region of human
RT TNFR2: association with systemic lupus erythematosus.";
RL Genes Immun. 1:501-503(2000).
RN [11]
RP SEQUENCE OF 27-31.
RC TISSUE=Urine;
RX MEDLINE=90110215; PubMed=2153136;
RA Engelmann H., Novick D., Wallach D.;
RT "Two tumor necrosis factor-binding proteins purified from human urine.
RT Evidence for immunological cross-reactivity with cell surface tumor
RT necrosis factor receptors.";
RL J. Biol. Chem. 265:1531-1536(1990).
RN [12]
RP SEQUENCE OF 23-40; 65-69; 136-141; 300-306 AND 346-362.
RX MEDLINE=91056048; PubMed=2173696;
RA Loetscher H., Schlaeger E.J., Lahm H.-W., Pan Y.-C.E., Lesslauer W.,
RA Brockhaus M.;
RT "Purification and partial amino acid sequence analysis of two distinct
RT tumor necrosis factor receptors from HL60 cells.";
RL J. Biol. Chem. 265:20131-20138(1990).
RN [13]
RP CHARACTERIZATION.
RX MEDLINE=93016040; PubMed=1328224;
RA Pennica D., Lam V.T., Mize N.K., Weber R.F., Lewis M., Fendly B.M.,
RA Lipari M.T., Goeddel D.V.;
RT "Biochemical properties of the 75-kDa tumor necrosis factor receptor.
RT Characterization of ligand binding, internalization, and receptor
RT phosphorylation.";
RL J. Biol. Chem. 267:21172-21178(1992).
RN [14]
RP INTERACTION WITH TRAF2.
RX MEDLINE=94349371; PubMed=8069916; DOI=10.1016/0092-8674(94)90532-0;
RA Rothe M., Wong S.C., Henzel W.J., Goeddel D.V.;
RT "A novel family of putative signal transducers associated with the
RT cytoplasmic domain of the 75 kDa tumor necrosis factor receptor.";
RL Cell 78:681-692(1994).
RN [15]
RP X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS) OF 419-428 IN COMPLEX WITH
RP TRAF2.
RX MEDLINE=99221490; PubMed=10206649; DOI=10.1038/19110;
RA Park Y.C., Burkitt V., Villa A.R., Tong L., Wu H.;
RT "Structural basis for self-association and receptor recognition of
RT human TRAF2.";
RL Nature 398:533-538(1999).
RN [16]

RP VARIANTS ARG-196 AND LYS-232.
RX MEDLINE=2160398; PubMed=11762942;
RA Morita C., Horiuchi T., Tsukamoto H., Hattori N., Kikuchi Y.,
RA Arinobu Y., Otsuka T., Sawabe T., Harashina S., Nagasawa K., Niho Y.;
RT "Association of tumor necrosis factor receptor type II polymorphism
RT 196R with systemic lupus erythematosus in the Japanese: molecular and
RT functional analysis";
RL Arthritis Rheum. 44:2819-2827(2001).
RN [17]
RP VARIANT ARG-196.
RX MEDLINE=22151311; PubMed=12161545; DOI=10.1210/jc.87.8.3977;
RA Peral B., San Millan J.L., Castello R., Moghetti P.,
RA Escobar-Morreale H.F.;
RT "Comment: the methionine 196 arginine polymorphism in exon 6 of the
RT TNF receptor 2 gene (TNFRSF1B) is associated with the polycystic ovary
RT syndrome and hyperandrogenism";
RL J. Clin. Endocrinol. Metab. 87:3977-3983(2002).
CC -!- FUNCTION: Receptor with high affinity for TNFSF2/TNF-alpha and
CC approximately 5-fold lower affinity for homotrimeric
CC TNFSF1/lymphotoxin-alpha. The TRAF1/TRA2 complex recruits the
CC apoptotic suppressors BIRC2 and BIRC3 to TNFRSF1B/TNFR2. This
CC receptor mediates most of the metabolic effects of TNF-alpha.
CC Isoform 2 blocks TNF-alpha-induced apoptosis, which suggests that
CC it regulates TNF-alpha function by antagonizing its biological
CC activity.
CC -!- SUBUNIT: Binds to TRAF2.
CC -!- SUBCELLULAR LOCATION: Type I membrane protein (isoform 1);
CC secreted (isoform 2 and TBP-II).
CC -!- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=1;
CC IsoId=P20333-1; Sequences=Displayed;
CC Name=2; Synonyms=DS-TNFR2(Delta7.8), sTNFR2;
CC IsoId=P20333-2; Sequences=VSP_011826, VSP_011827;
CC -!- PTM: Phosphorylated; mainly on serine residues and with a very low
CC level on threonine residues.
CC -!- PTM: A soluble form (tumor necrosis factor binding protein 2) is
CC produced from the membrane form by proteolytic processing.
CC -!- PHARMACEUTICAL: Available under the name Enbrel (Immunex and
CC Wyeth-Ayerst). Used to treat moderate to severe rheumatoid
CC arthritis (RA). Enbrel consist of the extracellular ligand-binding
CC portion of TNFRSF1B linked to an immunoglobulin Fc chain. It binds
CC to TNF-alpha and blocks its interactions with receptors.
CC -!- SIMILARITY: Contains 4 TNFR-Cys repeats.
CC -!- DATABASE: NAME=PROW; NOTE=CD guide CD120b entry;

Query Match 31.5%; Score 330; DB 1; Length 461;
Best Local Similarity 39.8%; Pred. No. 6.8e-21;
Matches 66; Conservative 16; Mismatches 72; Indels 12; Gaps 3;

Qy 9 HYDETSQHLCDKCPGTYLKHCTAKWTVACPCPDHYTDSHTSDECLYSPVCKE 68
Db 45 YVDO--TAQMCCKSPGQKAVFCTKTSVTCDSCESTVTLWNVPECLSCGRCS 102
Qy 69 LQYVQECNTHNRVCEKGRYLEI-----EFLKHSRCPGPGVQAGTPERTVCK 122
Db 103 DQVETQACTRGNRICTCPGMYCALSKQEGRLCAPLRKPRGPGVARPGETSDVVK 162
Qy 123 RCPDGFNSETSSKAPCKHNTCSVFLGLLTQKGNATHDNICSGNS 168
Db 163 PCAPCTFNTTSSDTCRPHQICNVVAI----PGNASNDVACTSTS 204

RESULT 15
TR1B MOUSE
ID TR1B MOUSE STANDARD; PRT; 474 AA.
AC P25119; O88734; P97893;
DT 01-MAY-1992 (Rel. 22, Created)
DT 25-JAN-2005 (Rel. 46, Last sequence update)
DT 25-JAN-2005 (Rel. 46, Last annotation update)
DE Tumor necrosis factor receptor superfamily member 1B precursor (Tumor
DE necrosis factor receptor 2) (TNF-R2) (Tumor necrosis factor receptor
DE type II) (p75) (p80 TNF-alpha receptor).

GN Name=TNFRsf1b; Synonyms=TNfr-2, TNfr2;
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=91187885; PubMed=1849278;
RA Lewis M., Tartaglia L.A., Lee A., Bennett G.L., Rice G.C., Wong G.H.,
RA Chen E.Y., Goeddel D.V.;
RT "Cloning and expression of cDNAs for two distinct murine tumor
RT necrosis factor receptors demonstrate one receptor is species
RT specific";
RL Proc. Natl. Acad. Sci. U.S.A. 88:2830-2834(1991).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=91246168; PubMed=1645445;
RA Goodwin R.G., Anderson D., Jerzy R., Davis T., Brannan C.I.,
RA Copeland N.G., Jenkins N.A., Smith C.A.;
RT "Molecular cloning and expression of the type 1 and type 2 murine
RT receptors for tumor necrosis factor";
RL Mol. Cell. Biol. 11:3020-3026(1991).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=98414512; PubMed=9740674; DOI=10.1006/geno.1998.5407;
RA Hurlb B., Segade F., Rodriguez R., Ramos S.S., Lazo P.S.;
RT "The mouse tumor necrosis factor receptor 2 gene: genomic structure
RT and characterization of the two transcripts";
RL Genomics 52:79-98(1998).
RN [4]
RP SEQUENCE OF 1-26 FROM N.A.
RC STRAIN=NOD;
RA Jacob C.O., Liu J.;
RL Submitted (JAN-1996) to the EMBL/GenBank/DBJ databases.
RN [5]
RP SEQUENCE OF 1-22 FROM N.A.
RC TISSUE=Liver;
RA Kisonergis M., Fellows R., Feldmann M., Chernajovsky Y.;
RL Submitted (MAY-1995) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Receptor with high affinity for TNFSF2/TNF-alpha and
CC approximately 5-fold lower affinity for homotrimeric
CC TNFSF1/lymphotoxin-alpha. The TRAF1/TRA2 complex recruits the
CC apoptotic suppressors BIRC2 and BIRC3 to TNFRSF1B/TNFR2 (By
CC similarity).
CC -!- SUBUNIT: Binds to TRAF2 (By similarity).
CC -!- SUBCELLULAR LOCATION: Type I membrane protein.
CC -!- SIMILARITY: Contains 4 TNFR-Cys repeats.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC use by non-profit institutions as long as its content is in no way
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CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@sib-sib.ch).
CC -----
CC EMBL; M60469; AAA39752.1; -;
CC EMBL; M59378; AAA40463.1; -;
CC EMBL; Y14619; CAA74969.1; -;
CC EMBL; Y14620; CAA74969.1; JOINED.
CC EMBL; Y14621; CAA74969.1; JOINED.
CC EMBL; Y14622; CAA74969.1; JOINED.
CC EMBL; Y14679; CAA74969.1; JOINED.
CC EMBL; Y14623; CAA74969.1; JOINED.
CC EMBL; U39488; AAA5021.1; -;
CC EMBL; X87128; CAA60618.1; -;
CC PIR; B38634; B38634.
CC HSSP; P19438; INCF.
CC MGD; MGI:1314883; TNfrsf1b.
CC GO; GO:0007166; P:cell surface receptor linked signal transdu. .; IMP.
CC GO; GO:0006954; P:inflammatory response; IMP.
CC GO; GO:0008220; P:necrosis; IMP.
CC InterPro; IPR001368; TNFR_c6.

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OM protein - protein search, using sw model

Run on: November 14, 2005, 22:59:40 ; Search time 14.4225 Seconds
(without alignments)
931.659 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_201

Perfect score: 1046

Sequence: 1 ETFPKYLHYDEETSHQLLC.....DNICSGNSESTQKCGIDVTL 180

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Issued Patents AA:*
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1046	100.0	293	4	US-09-896-096A-18
2	1046	100.0	401	3	US-08-974-022-6
3	1046	100.0	401	3	US-09-042-785A-12
4	1046	100.0	401	3	US-08-795-445A-6
5	1046	100.0	401	3	US-08-795-447A-6
6	1046	100.0	401	3	US-08-974-186-6
7	1046	100.0	401	3	US-08-795-446B-6
8	1046	100.0	401	3	US-09-153-927-1
9	1046	100.0	401	3	US-09-072-993C-1
10	1046	100.0	401	3	US-08-706-945D-128
11	1046	100.0	401	4	US-08-577-788C-6
12	1046	100.0	401	4	US-08-577-788C-56
13	1046	100.0	401	4	US-09-064-832-2
14	945	90.3	161	4	US-09-632-277A-3
15	943	90.2	364	3	US-08-706-945D-142
16	925	88.4	401	3	US-08-974-022-4
17	925	88.4	401	3	US-09-042-785A-13
18	925	88.4	401	3	US-08-795-445A-4
19	925	88.4	401	3	US-08-795-447A-4
20	925	88.4	401	3	US-08-974-186-4
21	925	88.4	401	3	US-08-795-446B-4
22	925	88.4	401	3	US-08-706-945D-126
23	925	88.4	401	4	US-08-577-788C-4
24	925	88.4	401	4	US-08-577-788C-54
25	912	87.2	208	4	US-08-577-788C-50
26	912	87.2	401	3	US-08-974-022-2
27	912	87.2	401	3	US-08-795-445A-2

28 912 87.2 401 3 US-08-795-447A-2 Sequence 2, Appli
29 912 87.2 401 3 US-08-974-186-2 Sequence 2, Appli
30 912 87.2 401 3 US-08-795-446B-2 Sequence 2, Appli
31 912 87.2 401 3 US-08-706-945D-124 Sequence 124, App
32 912 87.2 401 4 US-08-577-788C-2 Sequence 2, Appli
33 912 87.2 401 4 US-08-577-788C-55 Sequence 55, Appl
34 865 82.7 147 3 US-09-527-236A-20 Sequence 20, Appl
35 865 82.7 147 4 US-09-756-854-20 Sequence 58, Appl
36 861 82.3 146 4 US-09-523-323-58 Sequence 130, App
37 827 79.1 139 3 US-08-706-945D-130 Sequence 141, App
38 825 78.9 364 3 US-08-706-945D-136 Sequence 136, App
39 781 74.7 174 3 US-08-936-019-1 Sequence 1, Appli
40 433.5 41.4 271 4 US-08-794-796-2 Sequence 2, Appli
41 433.5 41.4 300 2 US-09-632-277A-2 Sequence 52, Appl
42 433.5 41.4 300 4 US-09-523-323-52 Sequence 1, Appli
43 433.5 41.4 300 4 US-09-896-096A-1 Sequence 3, Appli
44 433.5 41.4 300 4 US-09-936-019-3
45 433.5 41.4 300 4

ALIGNMENTS

RESULT 1

US-09-896-096A-18

; Sequence 18, Application US/09896096A

; Patent No. 6764679

; GENERAL INFORMATION:

; APPLICANT: ASHKENAZI, AVI J

; APPLICANT: BOTSTEIN, DAVID

; APPLICANT: DODGE, KELLY H.

; APPLICANT: GURNEY, AUSTIN L.

; APPLICANT: KIM, KYUNG JIN

; APPLICANT: LAWRENCE, DAVID A.

; APPLICANT: PITTI, ROBERT

; APPLICANT: ROY, MARGARET A

; APPLICANT: TUNAS, DANIEL B

; APPLICANT: WOOD, WILLIAM I.

; TITLE OF INVENTION: Dcr3 Polypeptide, A TNFR Homolog

; FILE REFERENCE: P11342 REVISED

; CURRENT APPLICATION NUMBER: US/09/896,096A

; CURRENT FILING DATE: 2001-06-28

; PRIOR APPLICATION NUMBER: US 09/157,289

; PRIOR FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: US 60/059,288

; PRIOR FILING DATE: 1997-09-18

; PRIOR APPLICATION NUMBER: US 60/094,640

; NUMBER OF SEQ ID NOS: 18

; SEQ ID NO 18

; LENGTH: 293

; TYPE: PRT

; ORGANISM: Homo sapiens

US-09-896-096A-18

Query Match 100.0%; Score 1046; DB 4; Length 293;

Best Local Similarity 100.0%; Pred. No. 6.8e-91;

Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFPKYLHYDEETSHQLLCDCPPGTYLKHCHTAKWKTCAPCPDHVYTDSDCL 60
Db 22 ETFPKYLHYDEETSHQLLCDCPPGTYLKHCHTAKWKTCAPCPDHVYTDSDCL 81
Qy 61 YCSFVCKELOYVQECNRTNHRVCECKEGRYLIEFCLKHSRCPGFGVQAGTPERNTV 120
Db 82 YCSFVCKELOYVQECNRTNHRVCECKEGRYLIEFCLKHSRCPGFGVQAGTPERNTV 141
Qy 121 CKRCPDGFNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

RESULT 2


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US-08-974-022-6
; Sequence 6, Application US/08974022
; Patent No. 6015938
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,022
; FILING DATE: 12-DEC-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-974-022-6

Query Match 100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKPCPPGTYLKQHCCTAKWKTVCAKCPDHYTDSWHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKPCPPGTYLKQHCCTAKWKTVCAKCPDHYTDSWHTSDECL 81

Qy 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGPGVVGAGTPERTV 120
Db 82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGPGVVGAGTPERTV 141

Qy 121 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCNCSGSESTQKCGIDVT 180
Db 142 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCNCSGSESTQKCGIDVT 201

RESULT 3
US-09-042-785A-12
; Sequence 12, Application US/09042785A
; Patent No. 6194151
; GENERAL INFORMATION:
; APPLICANT: Busfield, Samantha J
; TITLE OF INVENTION: NOVEL MOLECULES OF THE TNF RECEPTOR SUPERFAMILY
; TITLE OF INVENTION: AND USES THEREFOR
; NUMBER OF SEQUENCES: 31
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: LAHIVE & COCKFIELD, LLP
; STREET: 28 State Street
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109

US-08-974-022-6
; Sequence 6, Application US/08974022
; Patent No. 6015938
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,022
; FILING DATE: 12-DEC-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-974-022-6

Query Match 100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKPCPPGTYLKQHCCTAKWKTVCAKCPDHYTDSWHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKPCPPGTYLKQHCCTAKWKTVCAKCPDHYTDSWHTSDECL 81

Qy 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGPGVVGAGTPERTV 120
Db 82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGPGVVGAGTPERTV 141

Qy 121 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCNCSGSESTQKCGIDVT 180
Db 142 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCNCSGSESTQKCGIDVT 201

RESULT 4
US-08-974-445A-6
; Sequence 6, Application US/08795445A
; Patent No. 6284485
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795,445A
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
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; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-795-445A-6

Query Match 100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETTPPKYLHYDEETSHOLLCDKCPGPGYLYLKHQCTAKWKTVCAPCPDHYHYTDSWHTSDECL 60
DB 22 ETTPPKYLHYDEETSHOLLCDKCPGPGYLYLKHQCTAKWKTVCAPCPDHYHYTDSWHTSDECL 81
QY 61 YCSPVKCELQYVQKQCNRTNHRVCECKEGRYLEIEFCLKHRSCPPGFGVQAGTPERTV 120
DB 82 YCSPVKCELQYVQKQCNRTNHRVCECKEGRYLEIEFCLKHRSCPPGFGVQAGTPERTV 141
QY 121 CKKCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
DB 142 CKKCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

RESULT 5
US-08-795-447A-6
; Sequence 6, Application US/08795447A
; Patent No. 6284728
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: One Amgen Center Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91362-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795,447A
; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378D2
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-795-447A-6

Query Match 100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETTPPKYLHYDEETSHOLLCDKCPGPGYLYLKHQCTAKWKTVCAPCPDHYHYTDSWHTSDECL 60

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Db      2 2  ETFPKYLHYDEBTSQHLLCDKPPGTYLKQHCTAKWKTVACPCPDHYTDSWHTSDECL 81
QY      61 YCSPVKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 120
Db      82 YCSPVKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 141
QY      121 CKPCPDGFFSNETSASKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSESTQKCGIDVTL 180
Db      142 CKPCPDGFFSNETSASKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSESTQKCGIDVTL 201

RESULT 6
US-08-974-186-6
; Sequence 6, Application US/08974186
; Patent No. 6284740
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,186
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-974-186-6

Query Match 100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1  ETFPKYLHYDEBTSQHLLCDKPPGTYLKQHCTAKWKTVACPCPDHYTDSWHTSDECL 60
Db      22 ETFPKYLHYDEBTSQHLLCDKPPGTYLKQHCTAKWKTVACPCPDHYTDSWHTSDECL 81
QY      61 YCSPVKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 120
Db      82 YCSPVKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 141
QY      121 CKPCPDGFFSNETSASKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSESTQKCGIDVTL 180
Db      142 CKPCPDGFFSNETSASKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSESTQKCGIDVTL 201

RESULT 7
US-08-795-446B-6
; Sequence 6, Application US/08795446B
; Patent No. 6288032

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QY      121 CKPCPDGFFSNETSASKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTL 180
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RESULT 6
US-08-974-186-6
; Sequence 6, Application US/08974186
; Patent No. 6284740
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,186
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-974-186-6

Query Match 100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1  ETFPKYLHYDEBTSQHLLCDKPPGTYLKQHCTAKWKTVACPCPDHYTDSWHTSDECL 60
Db      22 ETFPKYLHYDEBTSQHLLCDKPPGTYLKQHCTAKWKTVACPCPDHYTDSWHTSDECL 81
QY      61 YCSPVKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 120
Db      82 YCSPVKELQYVQKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 141
QY      121 CKPCPDGFFSNETSASKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTL 180
Db      142 CKPCPDGFFSNETSASKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTL 201

RESULT 7
US-08-795-446B-6
; Sequence 6, Application US/08795446B
; Patent No. 6288032

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; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795,446B
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-795-446B-6

Query Match 100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKDCKPPGYLKQHCTAKWKTVCAPCPDHYHSDSWHTSDECL 60
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Qy 61 YCSPVKCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGPGVVOAGTPERNTV 120
Db 82 YCSPVKCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGPGVVOAGTPERNTV 141

Qy 121 CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNTCSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNTCSGNSESTQKCGIDVTL 201

RESULT 8
US-09-153-927-1
; Sequence 1, Application US/09153927A
; Patent No. 6297022
; GENERAL INFORMATION:
; APPLICANT: McDonnell, Peter C.
; APPLICANT: Young, Peter R.
; APPLICANT: Zou, Jun
; TITLE OF INVENTION: A Method of Identifying Agonists and
; TITLE OF INVENTION: Antagonists for Tumor Necrosis Related Receptors TR1, TR3
; FILE REFERENCE: GH50031
; CURRENT APPLICATION NUMBER: US/09/153,927A
; CURRENT FILING DATE: 1998-09-16
; EARLIER APPLICATION NUMBER: 60/061,334
; EARLIER FILING DATE: 1997-10-08
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1

Query Match 100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKDCKPPGYLKQHCTAKWKTVCAPCPDHYHSDSWHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKDCKPPGYLKQHCTAKWKTVCAPCPDHYHSDSWHTSDECL 81

Qy 61 YCSPVKCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGPGVVOAGTPERNTV 120
Db 82 YCSPVKCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGPGVVOAGTPERNTV 141

Qy 121 CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNTCSGNSESTQKCGIDVTL 180
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RESULT 8
US-09-153-927-1
; Sequence 1, Application US/09153927A
; Patent No. 6297022
; GENERAL INFORMATION:
; APPLICANT: McDonnell, Peter C.
; APPLICANT: Young, Peter R.
; APPLICANT: Zou, Jun
; TITLE OF INVENTION: A Method of Identifying Agonists and
; TITLE OF INVENTION: Antagonists for Tumor Necrosis Related Receptors TR1, TR3
; FILE REFERENCE: GH50031
; CURRENT APPLICATION NUMBER: US/09/153,927A
; CURRENT FILING DATE: 1998-09-16
; EARLIER APPLICATION NUMBER: 60/061,334
; EARLIER FILING DATE: 1997-10-08
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
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; LENGTH: 401
; TYPE: PRT
; ORGANISM: Human
US-09-153-927-1

Query Match 100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 22 ETPPKYLHYDEETSHQLLCKDCKPPGYLKQHCTAKWKTVCAPCPDHYHSDSWHTSDECL 81

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Db 82 YCSPVKCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGPGVVOAGTPERNTV 141

Qy 121 CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNTCSGNSESTQKCGIDVTL 180
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RESULT 9
US-09-072-993C-1
; Sequence 1, Application US/09072993C
; Patent No. 6346388
; GENERAL INFORMATION:
; APPLICANT: Michael R. Brigham-Burke
; APPLICANT: Peter R. Young
; TITLE OF INVENTION: A METHOD OF IDENTIFYING AGONIST AND
; TITLE OF INVENTION: ANTAGONISTS FOR TUMOR NECROSIS RELATED RECEPTORS TR1 AND TR2
; FILE REFERENCE: GH-50030
; CURRENT APPLICATION NUMBER: US/09/072,993C
; CURRENT FILING DATE: 1998-05-06
; PRIOR APPLICATION NUMBER: 60/055,513
; PRIOR FILING DATE: 1997-08-13
; PRIOR APPLICATION NUMBER: 60/056,980
; PRIOR FILING DATE: 1997-08-26
; PRIOR APPLICATION NUMBER: 60/057,550
; PRIOR FILING DATE: 1997-08-29
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
; LENGTH: 401
; TYPE: PRT
; ORGANISM: HOMO SAPIENS
US-09-072-993C-1

Query Match 100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 61 YCSPVKCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHSRCPGPGVVOAGTPERNTV 120
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Db 142 CKRCPDGFPSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNTCSGNSESTQKCGIDVTL 201

RESULT 10
US-08-706-945D-128
; Sequence 128, Application US/08706945D
; Patent No. 6369027
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank
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; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; FILE REFERENCE: A-378CIP
; CURRENT APPLICATION NUMBER: US/08/706,945D
; PRIOR FILING DATE: 1996-09-03
; PRIOR APPLICATION NUMBER: 08/577,788
; PRIOR FILING DATE: 1995-12-22
; NUMBER OF SEQ ID NOS: 145
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 128
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-706-945D-128

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Best Local Similarity 100.0%; Pred. No. 9.6e-91;
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Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 201

RESULT 11
US-08-577-788C-6
; Sequence 6, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; FILE REFERENCE: A-378 Rev
; CURRENT APPLICATION NUMBER: US/08/577,788C
; CURRENT FILING DATE: 1995-12-22
; NUMBER OF SEQ ID NOS: 58
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-577-788C-6

Query Match      100.0%; Score 1046; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
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Qy 61 YCSPVKELQVVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVOAGTPERNTV 120
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Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 201

RESULT 12
US-08-577-788C-56
; Sequence 56, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; FILE REFERENCE: A-378 Rev
; CURRENT APPLICATION NUMBER: US/08/577,788C
; CURRENT FILING DATE: 1995-12-22
; NUMBER OF SEQ ID NOS: 58
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-577-788C-56

Query Match      100.0%; Score 1046; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 22 ETFPKYLHYDEETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81

Qy 61 YCSPVKELQVVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVOAGTPERNTV 120
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Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 201

RESULT 13
US-09-064-832-2
; Sequence 2, Application US/09064832
; Patent No. 6790823
; GENERAL INFORMATION:
; APPLICANT: Simonet, Scott
; APPLICANT: Sarosi, Ildiko
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE
; TITLE OF INVENTION: PREVENTION AND TREATMENT OF CARDIOVASCULAR DISEASES
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: One Amgen Center Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/064,832
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-525
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-064-832-2

Query Match      100.0%; Score 1046; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 9.6e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 201
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Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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RESULT 14
US-09-632-277A-3
; Sequence 3, Application US/09632277A
; Patent No. 6599716
; GENERAL INFORMATION:
; APPLICANT: Hsu, Hailing
; TITLE OF INVENTION: NTR3 A No. 6599716el Member of the TNF-Receptor Supergene Family
; FILE REFERENCE: 01017/35549A
; CURRENT APPLICATION NUMBER: US/09/632,277A
; CURRENT FILING DATE: 2000-08-03
; PRIOR APPLICATION NUMBER: US 60/147,297
; PRIOR FILING DATE: 1999-08-04
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 3
; LENGTH: 161
; TYPE: PRT
; ORGANISM: Mus musculus
; FEATURE:
; OTHER INFORMATION: Mus musculus OFG
US-09-632-277A-3

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Qy 65 VKCELQYVQECNRTNHRVCECKEGRYLEIEFCLKXRSPPPGFVGVQAGTPERNTVCKRC 124
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Qy 125 PDGFFSNSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNIC 165
Db 121 PDGFFSNSTSSKAPCRKHTNCSVFGLLLTQKGNATHDNIC 161

RESULT 15
US-08-706-945D-142
; Sequence 142, Application US/08706945D
; Patent No. 6369027
; GENERAL INFORMATION:
; APPLICANT: Boyle, William
; APPLICANT: Lacey, David
; APPLICANT: Calzone, Frank
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; FILE REFERENCE: A-378CIP
; CURRENT APPLICATION NUMBER: US/08/706,945D
; CURRENT FILING DATE: 1996-09-03
; PRIOR APPLICATION NUMBER: 08/577,788
; PRIOR FILING DATE: 1995-12-22
; NUMBER OF SEQ ID NOS: 145
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 142
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; LENGTH: 364
; TYPE: PRT
; ORGANISM: Mus musculus
US-08-706-945D-142

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GenCore version 5.1.6
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OM protein - protein search, using sw model

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(without alignments)
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Title: US-10-762-159-125_COPY_22_201
Perfect score: 1046
Sequence: 1 ETFPKYLHYDETSHQLLC.....DNICSGNSESTQKGDIVTL 180

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Listing first 45 summaries

Database : Published Applications AA:*

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- 2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep.*
- 3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep.*
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- 21: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep.*
- 22: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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2	1046	100.0	272	14	US-10-232-858-75
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4	1046	100.0	272	16	US-10-785-114-75
5	1046	100.0	272	17	US-10-929-958-75
6	1046	100.0	272	17	US-10-929-748-75
7	1046	100.0	272	17	US-10-979-303-75
8	1046	100.0	272	18	US-10-979-654-75
9	1046	100.0	293	9	US-09-896-096A-18
10	1046	100.0	293	9	US-09-894-924-18
11	1046	100.0	293	15	US-10-456-819-18

12	1046	100.0	293	16	US-10-688-132-18
13	1046	100.0	293	16	US-10-871-907-18
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15	1046	100.0	321	14	US-10-232-858-80
16	1046	100.0	321	16	US-10-785-109-80
17	1046	100.0	321	16	US-10-785-114-80
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23	1046	100.0	327	14	US-10-232-858-72
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35	1046	100.0	351	16	US-10-785-114-74
36	1046	100.0	351	17	US-10-929-958-74
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ALIGNMENTS

RESULT 1

US-09-062-113-75
; Sequence 75, Application US/09062113
; Patent No. US20020051969A1
; GENERAL INFORMATION:
; APPLICANT: GOTO, Masaaki
; APPLICANT: TSUDA, Eisuke
; APPLICANT: MOCHIZUKI, Shin'ichi
; APPLICANT: YANO, Kazuki
; APPLICANT: KOBAYASHI, Fumie
; APPLICANT: SHIMA, No. US20020051969A1uyuki
; APPLICANT: YASUDA, Hisataka
; APPLICANT: NAKAGAWA, No. US20020051969A1uaki
; APPLICANT: MORINAGA, Tomonori
; APPLICANT: UEDA, Masatsugu
; APPLICANT: HIGASHIO, Kanji
; TITLE OF INVENTION: No. US20020051969A1el Proteins and Methods for Producing
; TITLE OF INVENTION: the Proteins
; NUMBER OF SEQUENCES: 108
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Testa, Hurwitz & Thibault
; STREET: 125 High St.
; CITY: Boston
; STATE: MA
; COUNTRY: USA
; ZIP: 02110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/062,113
; FILING DATE: 17-APR-1998

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/ CLASSIFICATION:
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: JP 54977/1995
/ FILING DATE: 20-FEB-1995
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: JP 207508/1995
/ FILING DATE: 21-JUL-1995
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: PCT/JP96/00374
/ FILING DATE: 20-FEB-1996
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US 08/915,004
/ FILING DATE: 20-FEB-1996
/ ATTORNEY/AGENT INFORMATION:
/ NAME: MOORE, Ronda P.
/ REGISTRATION NUMBER: 44,244
/ REFERENCE/DOCKET NUMBER: FJN-060DV
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (617) 248-7000
/ TELEFAX: (617) 248-7100
/ INFORMATION FOR SEQ ID NO: 75:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 272 amino acids
/ TYPE: amino acid
/ STRANDEDNESS:
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ FEATURE:
/ NAME/KEY: Peptide
/ LOCATION: -21..0
/ FEATURE:
/ NAME/KEY: Protein
/ LOCATION: 1..251
/ OTHER INFORMATION: /note= "OCIF-CDD2"
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US-09-062-113-75

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Best Local Similarity 100.0%; Pred. No. 4.6e-85;
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Db 22 ETFPKYLHYDEETSHQLLCKPCPPGYLKHQCTAKWKTVCAPCPDHYHYYTDSWHTSDECL 81
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Db 82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVVQAGTPERNTV 141
Qy 121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTL 180
Db 142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTL 201

RESULT 2
US-10-232-858-75
/ Sequence 75, Application US/10232858
/ Publication No. US20030153048A1
/ GENERAL INFORMATION:
/ APPLICANT: GOTO, Masaaki
/ APPLICANT: TSUDA, Eisuke
/ APPLICANT: MOCHIZUKI, Shin'ichi
/ APPLICANT: YANO, Kazuki
/ APPLICANT: KOBAYASHI, Fumie
/ APPLICANT: SHIMA, Nobuyuki
/ APPLICANT: YASUDA, Hisataka
/ APPLICANT: NAKAGAWA, Nobuaki
/ APPLICANT: MORINAGA, Tomonori
/ APPLICANT: UEDA, Masatsugu
/ APPLICANT: HIGASHIO, Kanji
/ TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
/ FILE REFERENCE: 16991.004
/ CURRENT APPLICATION NUMBER: US/10232858
/ PRIOR FILING DATE: 2002-09-03
/ PRIOR APPLICATION NUMBER: US 08/915,004
/ PRIOR FILING DATE: 1997-08-20
/ PRIOR APPLICATION NUMBER: PCT/JP96/00374
/ PRIOR FILING DATE: 1996-02-20
/ PRIOR APPLICATION NUMBER: JP 207508/1995
/ PRIOR FILING DATE: 1995-07-21
/ PRIOR APPLICATION NUMBER: JP 054977/1995
/ PRIOR FILING DATE: 1995-02-20
/ NUMBER OF SEQ ID NOS: 108
/ SOFTWARE: Patent in version 3.1
/ SEQ ID NO 75
/ LENGTH: 272
/ TYPE: PRT
/ ORGANISM: Homo sapiens
/
US-10-762-159-125

Query Match 100.0%; Score 1046; DB 16; Length 272;
Best Local Similarity 100.0%; Pred. No. 4.6e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFPKYLHYDEETSHQLLCKPCPPGYLKHQCTAKWKTVCAPCPDHYHYYTDSWHTSDECL 60
Db 22 ETFPKYLHYDEETSHQLLCKPCPPGYLKHQCTAKWKTVCAPCPDHYHYYTDSWHTSDECL 81
Qy 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVVQAGTPERNTV 120
Db 82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVVQAGTPERNTV 141
Qy 121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTL 180
Db 142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTL 201

RESULT 3
US-10-785-109-75
/ Sequence 75, Application US/10785109
/ Publication No. US20040142426A1
/ GENERAL INFORMATION:
/ APPLICANT: GOTO, Masaaki
/ APPLICANT: TSUDA, Eisuke
/ APPLICANT: MOCHIZUKI, Shin'ichi
/ APPLICANT: YANO, Kazuki
/ APPLICANT: KOBAYASHI, Fumie
/ APPLICANT: SHIMA, Nobuyuki
/ APPLICANT: YASUDA, Hisataka
/ APPLICANT: NAKAGAWA, Nobuaki
/ APPLICANT: MORINAGA, Tomonori
/ APPLICANT: UEDA, Masatsugu
/ APPLICANT: HIGASHIO, Kanji
/ TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
/ FILE REFERENCE: 16991.017
/ CURRENT APPLICATION NUMBER: US/10785,109
/ CURRENT FILING DATE: 2004-02-25
/ PRIOR APPLICATION NUMBER: US 10/232,858
/ PRIOR FILING DATE: 2002-09-03
/ PRIOR APPLICATION NUMBER: US 08/915,004
/ PRIOR FILING DATE: 1997-08-20
/ PRIOR APPLICATION NUMBER: PCT/JP96/00374
/ PRIOR FILING DATE: 1996-02-20
/ PRIOR APPLICATION NUMBER: JP 207508/1995
/ PRIOR FILING DATE: 1995-07-21
/ PRIOR APPLICATION NUMBER: JP 054977/1995
/ PRIOR FILING DATE: 1995-02-20
/ NUMBER OF SEQ ID NOS: 108
/ SOFTWARE: Patent in version 3.1
/ SEQ ID NO 75
/ LENGTH: 272
/ TYPE: PRT
/ ORGANISM: Homo sapiens
/
US-10-785-109-75

Query Match 100.0%; Score 1046; DB 16; Length 272;
Best Local Similarity 100.0%; Pred. No. 4.6e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFPKYLHYDEETSHQLLCKPCPPGYLKHQCTAKWKTVCAPCPDHYHYYTDSWHTSDECL 60
Db 22 ETFPKYLHYDEETSHQLLCKPCPPGYLKHQCTAKWKTVCAPCPDHYHYYTDSWHTSDECL 81
Qy 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVVQAGTPERNTV 120
Db 82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCTPPGFGVVQAGTPERNTV 141
Qy 121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTL 180
Db 142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTL 201
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Db 22 ETFPKYLHYDEETSHQLCDKCPGTYLKQHTAKWKTVCAPCPDHYYTDSWHTSDDECL 81
Qy 61 YCSPVKELQYVQKQCNTRNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 120
Db 82 YCSPVKELQYVQKQCNTRNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

RESULT 4

US-10-785-114-75
; Sequence 75, Application US/10785114
; Publication No. US20040143859A1
; GENERAL INFORMATION:
; APPLICANT: GOTO, Masaaki
; APPLICANT: TSUDA, Eisuke
; APPLICANT: MOCHIZUKI, Shin'ichi
; APPLICANT: YANO, Kazuki
; APPLICANT: KOBAYASHI, Fumie
; APPLICANT: SHIMA, Nobuyuki
; APPLICANT: YASUDA, Hisataka
; APPLICANT: NAKAGAWA, Nobuaki
; APPLICANT: MORINAGA, Tomonori
; APPLICANT: UEDA, Masatsugu
; APPLICANT: HIGASHIO, Kanji
; TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
; FILE REFERENCE: 16991.016
; CURRENT APPLICATION NUMBER: US/10785,114
; CURRENT FILING DATE: 2004-02-25
; PRIOR APPLICATION NUMBER: US 10/232,858
; PRIOR FILING DATE: 2002-09-03
; PRIOR APPLICATION NUMBER: US 08/915,004
; PRIOR FILING DATE: 1997-08-20
; PRIOR APPLICATION NUMBER: PCT/JP96/00374
; PRIOR FILING DATE: 1996-02-20
; PRIOR APPLICATION NUMBER: JP 207508/1995
; PRIOR FILING DATE: 1995-07-21
; PRIOR APPLICATION NUMBER: JP 054977/1995
; PRIOR FILING DATE: 1995-02-20
; NUMBER OF SEQ ID NOS: 108
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
; LENGTH: 272
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-785-114-75

Query Match 100.0%; Score 1046; DB 16; Length 272;
Best Local Similarity 100.0%; Pred. No. 4.6e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFPKYLHYDEETSHQLCDKCPGTYLKQHTAKWKTVCAPCPDHYYTDSWHTSDDECL 60
Db 22 ETFPKYLHYDEETSHQLCDKCPGTYLKQHTAKWKTVCAPCPDHYYTDSWHTSDDECL 81
Qy 61 YCSPVKELQYVQKQCNTRNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 120
Db 82 YCSPVKELQYVQKQCNTRNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

RESULT 5

US-10-929-958-75
; Sequence 75, Application US/10929958
; Publication No. US20050014229A1
; GENERAL INFORMATION:
; APPLICANT: GOTO, Masaaki
; APPLICANT: TSUDA, Eisuke

; APPLICANT: MOCHIZUKI, Shin'ichi
; APPLICANT: YANO, Kazuki
; APPLICANT: KOBAYASHI, Fumie
; APPLICANT: SHIMA, Nobuyuki
; APPLICANT: YASUDA, Hisataka
; APPLICANT: NAKAGAWA, Nobuaki
; APPLICANT: MORINAGA, Tomonori
; APPLICANT: UEDA, Masatsugu
; APPLICANT: HIGASHIO, Kanji
; TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
; FILE REFERENCE: 16991.021
; CURRENT APPLICATION NUMBER: US/10/929,958
; CURRENT FILING DATE: 2004-08-31
; PRIOR APPLICATION NUMBER: US 10/232,858
; PRIOR FILING DATE: 2002-09-03
; PRIOR APPLICATION NUMBER: US 08/915,004
; PRIOR FILING DATE: 1997-08-20
; PRIOR APPLICATION NUMBER: PCT/JP96/00374
; PRIOR FILING DATE: 1996-02-20
; PRIOR APPLICATION NUMBER: JP 207508/1995
; PRIOR FILING DATE: 1995-07-21
; PRIOR APPLICATION NUMBER: JP 054977/1995
; PRIOR FILING DATE: 1995-02-20
; NUMBER OF SEQ ID NOS: 108
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
; LENGTH: 272
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-929-958-75

Query Match 100.0%; Score 1046; DB 17; Length 272;
Best Local Similarity 100.0%; Pred. No. 4.6e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFPKYLHYDEETSHQLCDKCPGTYLKQHTAKWKTVCAPCPDHYYTDSWHTSDDECL 60
Db 22 ETFPKYLHYDEETSHQLCDKCPGTYLKQHTAKWKTVCAPCPDHYYTDSWHTSDDECL 81
Qy 61 YCSPVKELQYVQKQCNTRNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 120
Db 82 YCSPVKELQYVQKQCNTRNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 141
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

RESULT 6

US-10-929-748-75
; Sequence 75, Application US/10929748
; Publication No. US20050026837A1
; GENERAL INFORMATION:
; APPLICANT: GOTO, Masaaki
; APPLICANT: TSUDA, Eisuke
; APPLICANT: MOCHIZUKI, Shin'ichi
; APPLICANT: YANO, Kazuki
; APPLICANT: KOBAYASHI, Fumie
; APPLICANT: SHIMA, Nobuyuki
; APPLICANT: YASUDA, Hisataka
; APPLICANT: NAKAGAWA, Nobuaki
; APPLICANT: MORINAGA, Tomonori
; APPLICANT: UEDA, Masatsugu
; APPLICANT: HIGASHIO, Kanji
; TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
; FILE REFERENCE: 16991.018
; CURRENT APPLICATION NUMBER: US/10/929,748
; CURRENT FILING DATE: 2004-08-31
; PRIOR APPLICATION NUMBER: US 10/232,858
; PRIOR FILING DATE: 2002-09-03
; PRIOR APPLICATION NUMBER: US 08/915,004
; PRIOR FILING DATE: 1997-08-20
; PRIOR APPLICATION NUMBER: PCT/JP96/00374

; PRIOR FILING DATE: 1996-02-20
; PRIOR APPLICATION NUMBER: JP 207508/1995
; PRIOR FILING DATE: 1995-07-21
; PRIOR APPLICATION NUMBER: JP 054977/1995
; PRIOR FILING DATE: 1995-02-20
; NUMBER OF SEQ ID NOS: 108
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
; LENGTH: 272
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-929-748-75

Query Match 100.0%; Score 1046; DB 17; Length 272;
Best Local Similarity 100.0%; Pred. No. 4.6e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKPCPPGYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
|
Db 22 ETPPKYLHYDEETSHQLLCKPCPPGYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
|
Qy 61 YCSPVKELQYVQECNRTNRYVCECKEGRYLEIEFCLKHSRCPGPGVQAGTPERTV 120
|
Db 82 YCSPVKELQYVQECNRTNRYVCECKEGRYLEIEFCLKHSRCPGPGVQAGTPERTV 141
|
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
|
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201
|

RESULT 7
US-10-979-303-75
; Sequence 75, Application US/10979303
; Publication No. US20050118682A1
; GENERAL INFORMATION:
; APPLICANT: GOTO, Masaaki
; APPLICANT: MOCHIZUKI, Shin'ichi
; APPLICANT: YANO, Kazuki
; APPLICANT: KOBAYASHI, Fumie
; APPLICANT: SHIMA, Nobuyuki
; APPLICANT: YASUDA, Hisataka
; APPLICANT: NAKAGAWA, Nobuaki
; APPLICANT: MORINAGA, Tomonori
; APPLICANT: UEDA, Masatsugu
; APPLICANT: HIGASHIO, Kanji
; TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
; FILE REFERENCE: 16991.027
; CURRENT APPLICATION NUMBER: US/10/979,303
; CURRENT FILING DATE: 2004-11-03
; PRIOR FILING DATE: 2002-09-03
; PRIOR APPLICATION NUMBER: US 10/232,858
; PRIOR FILING DATE: 1997-08-20
; PRIOR APPLICATION NUMBER: PCT/JP96/00374
; PRIOR FILING DATE: 1996-02-20
; PRIOR APPLICATION NUMBER: JP 207508/1995
; PRIOR FILING DATE: 1995-07-21
; PRIOR APPLICATION NUMBER: JP 054977/1995
; NUMBER OF SEQ ID NOS: 108
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
; LENGTH: 272
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-979-303-75

Query Match 100.0%; Score 1046; DB 17; Length 272;
Best Local Similarity 100.0%; Pred. No. 4.6e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKPCPPGYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
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Db 22 ETPPKYLHYDEETSHQLLCKPCPPGYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
|
Qy 61 YCSPVKELQYVQECNRTNRYVCECKEGRYLEIEFCLKHSRCPGPGVQAGTPERTV 120
|
Db 82 YCSPVKELQYVQECNRTNRYVCECKEGRYLEIEFCLKHSRCPGPGVQAGTPERTV 141
|
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
|
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201
|

RESULT 8
US-10-979-654-75
; Sequence 75, Application US/10979654
; Publication No. US20050124054A1
; GENERAL INFORMATION:
; APPLICANT: GOTO, Masaaki
; APPLICANT: TSUDA, Eisuke
; APPLICANT: MOCHIZUKI, Shin'ichi
; APPLICANT: YANO, Kazuki
; APPLICANT: KOBAYASHI, Fumie
; APPLICANT: SHIMA, Nobuyuki
; APPLICANT: YASUDA, Hisataka
; APPLICANT: NAKAGAWA, Nobuaki
; APPLICANT: MORINAGA, Tomonori
; APPLICANT: UEDA, Masatsugu
; APPLICANT: HIGASHIO, Kanji
; TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
; FILE REFERENCE: 16991.026
; CURRENT APPLICATION NUMBER: US/10/979,654
; CURRENT FILING DATE: 2004-11-03
; PRIOR APPLICATION NUMBER: US 10/232,858
; PRIOR FILING DATE: 2002-09-03
; PRIOR APPLICATION NUMBER: US 08/915,004
; PRIOR FILING DATE: 1997-08-20
; PRIOR APPLICATION NUMBER: PCT/JP96/00374
; PRIOR FILING DATE: 1996-02-20
; PRIOR APPLICATION NUMBER: JP 207508/1995
; PRIOR FILING DATE: 1995-07-21
; PRIOR APPLICATION NUMBER: JP 054977/1995
; PRIOR FILING DATE: 1995-02-20
; NUMBER OF SEQ ID NOS: 108
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
; LENGTH: 272
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-979-654-75

Query Match 100.0%; Score 1046; DB 18; Length 272;
Best Local Similarity 100.0%; Pred. No. 4.6e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKPCPPGYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
|
Db 22 ETPPKYLHYDEETSHQLLCKPCPPGYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
|
Qy 61 YCSPVKELQYVQECNRTNRYVCECKEGRYLEIEFCLKHSRCPGPGVQAGTPERTV 120
|
Db 82 YCSPVKELQYVQECNRTNRYVCECKEGRYLEIEFCLKHSRCPGPGVQAGTPERTV 141
|
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
|
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201
|

RESULT 9
US-09-896-096A-18
; Sequence 18, Application US/09896096A
; Patent No. US20020061559A1
; GENERAL INFORMATION:
; APPLICANT: ASHKENAZI, AVI J

```
; APPLICANT: BOTSTEIN, DAVID
; APPLICANT: DODGE, KELLY H.
; APPLICANT: GURNEY, AUSTIN L.
; APPLICANT: KIM, KYUNG JIN
; APPLICANT: LAWRENCE, DAVID A.
; APPLICANT: PITTI, ROBERT
; APPLICANT: ROY, MARGARET A.
; APPLICANT: TUNAS, DANIEL B.
; APPLICANT: WOOD, WILLIAM I.
; TITLE OF INVENTION: Dcr3 Polypeptide, A TNFR Homolog
; FILE REFERENCE: P1134R2 REVISED
; CURRENT APPLICATION NUMBER: US/09/896,096A
; CURRENT FILING DATE: 2001-06-28
; PRIOR APPLICATION NUMBER: US 09/157,289
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: US 60/059,288
; PRIOR FILING DATE: 1997-09-18
; PRIOR APPLICATION NUMBER: US 60/094,640
; PRIOR FILING DATE: 1998-07-30
; NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 18
; LENGTH: 293
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-896-096A-18

Query Match      100.0%; Score 1046; DB 9; Length 293;
Best Local Similarity 100.0%; Pred. No. 5e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1  ETPPKYLHYDEETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
Db 22  ETPPKYLHYDEETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81

Qy 61  YCSPVKELQYVKQECNRNTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 120
Db 82  YCSPVKELQYVKQECNRNTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 141

Qy 121  CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 142  CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

RESULT 10
US-09-894-924-18
; Sequence 18, Application US/09894924
; Patent No. US20020065210A1
; GENERAL INFORMATION:
; APPLICANT: ASHKENAZI, AVI J
; APPLICANT: BOTSTEIN, DAVID
; APPLICANT: DODGE, KELLY H.
; APPLICANT: GURNEY, AUSTIN L.
; APPLICANT: KIM, KYUNG JIN
; APPLICANT: LAWRENCE, DAVID A.
; APPLICANT: PITTI, ROBERT
; APPLICANT: ROY, MARGARET A.
; APPLICANT: TUNAS, DANIEL B.
; APPLICANT: WOOD, WILLIAM I.
; TITLE OF INVENTION: Dcr3 Polypeptide, A TNFR Homolog
; FILE REFERENCE: P1134R2 REVISED
; CURRENT APPLICATION NUMBER: US/09/894,924
; CURRENT FILING DATE: 2001-06-28
; PRIOR APPLICATION NUMBER: US 09/157,289
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: US 60/059,288
; PRIOR FILING DATE: 1997-09-18
; PRIOR APPLICATION NUMBER: US 60/094,640
; PRIOR FILING DATE: 1998-07-30
; NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 18
; LENGTH: 293
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-894-924-18

Query Match      100.0%; Score 1046; DB 15; Length 293;
Best Local Similarity 100.0%; Pred. No. 5e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1  ETPPKYLHYDEETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
Db 22  ETPPKYLHYDEETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81

Qy 61  YCSPVKELQYVKQECNRNTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 120
Db 82  YCSPVKELQYVKQECNRNTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVWQAGTPERNTV 141

Qy 121  CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 142  CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

RESULT 12
US-10-688-132-18
; Sequence 18, Application US/10688132
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; Publication No. US20040175791A1
; GENERAL INFORMATION:
; APPLICANT: ASHKENAZI, AVI J
; APPLICANT: BOTSTEIN, DAVID
; APPLICANT: DODGE, KELLY H.
; APPLICANT: GURNEY, AUSTIN L.
; APPLICANT: KIM, KYUNG JIN
; APPLICANT: LAWRENCE, DAVID A.
; APPLICANT: PITTI, ROBERT
; APPLICANT: ROY, MARGARET A
; APPLICANT: TUMAS, DANIEL B
; APPLICANT: WOOD, WILLIAM I.
; TITLE OF INVENTION: Dcr3 polypeptide, A TNFR Homolog
; FILE REFERENCE: P1134R2 REVISED
; CURRENT APPLICATION NUMBER: US/10/688,132
; CURRENT FILING DATE: 2003-10-17
; PRIOR APPLICATION NUMBER: US/09/894,924
; PRIOR FILING DATE: 2001-06-28
; PRIOR APPLICATION NUMBER: US 09/157,289
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: US 60/059,288
; PRIOR FILING DATE: 1997-09-18
; PRIOR APPLICATION NUMBER: US 60/094,640
; PRIOR FILING DATE: 1998-07-30
; NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 18
; LENGTH: 293
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-688-132-18

Query Match      100.0%; Score 1046; DB 16; Length 293;
Best Local Similarity 100.0%; Pred. No. 5e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPPKYLHYDEETSHQLLCKPDPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKPDPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
Qy 61 YCSPVCKELQYVKQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGPGVVOAGTPERNTV 120
Db 82 YCSPVCKELQYVKQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGPGVVOAGTPERNTV 141
Qy 121 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTIL 180
Db 142 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTIL 201

RESULT 13
US-10-871-907-18
; Sequence 18, Application US/10871907
; Publication No. US20040231011A1
; GENERAL INFORMATION:
; APPLICANT: ASHKENAZI, AVI J
; APPLICANT: BOTSTEIN, DAVID
; APPLICANT: DODGE, KELLY H.
; APPLICANT: GURNEY, AUSTIN L.
; APPLICANT: KIM, KYUNG JIN
; APPLICANT: LAWRENCE, DAVID A.
; APPLICANT: PITTI, ROBERT
; APPLICANT: ROY, MARGARET A
; APPLICANT: TUMAS, DANIEL B
; APPLICANT: WOOD, WILLIAM I.
; TITLE OF INVENTION: Dcr3 polypeptide, A TNFR Homolog
; FILE REFERENCE: P1134R2 REVISED
; CURRENT APPLICATION NUMBER: US/10/871,907
; CURRENT FILING DATE: 2004-06-17
; PRIOR APPLICATION NUMBER: US/09/157,289
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: US 60/059,288
; PRIOR FILING DATE: 1997-09-18
; PRIOR APPLICATION NUMBER: US 60/094,640
; PRIOR FILING DATE: 1998-07-30

Query Match      100.0%; Score 1046; DB 16; Length 293;
Best Local Similarity 100.0%; Pred. No. 5e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 22 ETPPKYLHYDEETSHQLLCKPDPGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
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Db 82 YCSPVCKELQYVKQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGPGVVOAGTPERNTV 141
Qy 121 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTIL 180
Db 142 CKRCPDGFNSETSSKAPCRKHTNCSVFGLLLTQKGNATHDNCISGNSSESTQKCGIDVTIL 201

RESULT 14
US-09-062-113-80
; Sequence 80, Application US/09062113
; Patent No. US20020051969A1
; GENERAL INFORMATION:
; APPLICANT: GOTO, Masaaki
; APPLICANT: TSUDA, Eisuke
; APPLICANT: MOCHIZUKI, Shin'ichi
; APPLICANT: YANO, Kazuki
; APPLICANT: KOBAYASHI, Fumie
; APPLICANT: SHIMA, No. US20020051969A1uyuki
; APPLICANT: YASUDA, Hisataka
; APPLICANT: NAKAGAWA, No. US20020051969A1uaki
; APPLICANT: MORINAGA, Tomonori
; APPLICANT: UEDA, Masatsugu
; APPLICANT: HIGASHIO, Kanji
; TITLE OF INVENTION: No. US20020051969A1el Proteins and Methods for Producing
; TITLE OF INVENTION: the Proteins
; NUMBER OF SEQUENCES: 108
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Testa, Hurwitz & Thibault
; STREET: 125 High St.
; CITY: Boston
; STATE: MA
; COUNTRY: USA
; ZIP: 02110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/062,113
; FILING DATE: 17-APR-1998
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54977/1995
; FILING DATE: 20-FEB-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 207508/1995
; FILING DATE: 21-JUL-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/JP96/00374
; FILING DATE: 20-FEB-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/915,004
; FILING DATE: 20-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: MOORE, Ronda P.
```

```
;
; REGISTRATION NUMBER: 44,244
; REFERENCE/DOCKET NUMBER: FUN-060DV
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617) 248-7000
; TELEFAX: (617) 248-7100
; INFORMATION FOR SEQ ID NO: 80:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 321 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: -21..0
; NAME/KEY: Protein
; LOCATION: 1..300
; OTHER INFORMATION: /note= "OCIF-CSph"
US-09-062-113-80

Query Match 100.0%; Score 1046; DB 9; Length 321;
Best Local Similarity 100.0%; Pred. No. 5.5e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 BTFPPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYTDSWHTSDDECL 60
Db 22 ETFFPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYTDSWHTSDDECL 81

Qy 61 YCSPVKELQVVKQECNTHNRVCECKEGRYLEIEFCLKHKRSCPPGFGVVOAGTPERNTV 120
Db 82 YCSPVKELQVVKQECNTHNRVCECKEGRYLEIEFCLKHKRSCPPGFGVVOAGTPERNTV 141

Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201

RESULT 15
US-10-232-858-80
; Sequence 80, Application US/10232858
; Publication No. US20030153048A1
; GENERAL INFORMATION:
; APPLICANT: GOTO, Masaaki
; APPLICANT: TSUDA, Eisuke
; APPLICANT: MOCHIZUKI, Shin'ichi
; APPLICANT: YANO, Kazuki
; APPLICANT: KOBAYASHI, Fumie
; APPLICANT: SHIMA, No. US20030153048A1uyuki
; APPLICANT: YASUDA, Hisataka
; APPLICANT: NAKAGAWA, No. US20030153048A1uaki
; APPLICANT: MORINAGA, Tomonori
; APPLICANT: UEDA, Masatsugu
; APPLICANT: HIGASHIO, Kanji
; TITLE OF INVENTION: No. US20030153048A1el Proteins and Methods for Producing the Pro
; FILE REFERENCE: 16991.004
; CURRENT APPLICATION NUMBER: US/10/232,858
; CURRENT FILING DATE: 2002-09-03
; PRIOR APPLICATION NUMBER: PCT/JP96/00374
; PRIOR FILING DATE: 1996-02-20
; PRIOR APPLICATION NUMBER: 08/915,004
; PRIOR FILING DATE: 1997-08-20
; NUMBER OF SEQ ID NOS: 108
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 80
; LENGTH: 321
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-232-858-80

Query Match 100.0%; Score 1046; DB 14; Length 321;
Best Local Similarity 100.0%; Pred. No. 5.5e-85;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Db 22 ETFFPKYLHYDEETSHQLLCKPCPGTYLKHCTAKWKTVCAPCPDHYTDSWHTSDDECL 81

Qy 61 YCSPVKELQVVKQECNTHNRVCECKEGRYLEIEFCLKHKRSCPPGFGVVOAGTPERNTV 120
Db 82 YCSPVKELQVVKQECNTHNRVCECKEGRYLEIEFCLKHKRSCPPGFGVVOAGTPERNTV 141

Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201
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Job time : 52.8835 secs

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GenCore version 5.1.1.6
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OM protein - protein search, using sw model

Run on: November 14, 2005, 22:25:59 ; Search time 116.254 Seconds
(without alignments)
1264.207 Million cell updates/sec

Title: US-10-762-159-125_copy_22_401

Perfect score: 2085

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Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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1: geneseqp1980s:*

2: geneseqp1990s:*

3: geneseqp2000s:*

4: geneseqp2001s:*

5: geneseqp2002s:*

6: geneseqp2003as:*

7: geneseqp2003bs:*

8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	2085	100.0	380	4	AAB66988 Murine OP
2	2085	100.0	380	8	ADM28827 Human ost
3	2085	100.0	381	8	ADM28870 Human OP
4	2085	100.0	382	8	ADM28869 Human OP
5	2085	100.0	385	8	ADM28876 Human OP
6	2085	100.0	391	8	ADM28877 Human OP
7	2085	100.0	400	6	ABU08820 Human ost
8	2085	100.0	401	2	AAW38345 Human ost
9	2085	100.0	401	3	AAAY3400 Osteoprot
10	2085	100.0	401	4	AAB66976 Human OP
11	2085	100.0	401	5	ABG71823 Wild type
12	2085	100.0	401	6	ABP55109 Human ost
13	2085	100.0	401	6	AAC34363 Human ost
14	2085	100.0	401	7	ADD01627 Human ost
15	2085	100.0	401	8	ADM28813 Human ost
16	2085	100.0	537	6	AAO19639 Human mil
17	2080	99.8	401	5	ABG73895 Human OP
18	2080	99.8	401	5	ABG73894 Human OP
19	2079	99.7	380	2	AAR99924 Mature os
20	2079	99.7	380	6	AAO19638 Human mil
21	2079	99.7	380	7	ADF15245 Human alb
22	2079	99.7	380	8	ADM28860 Human ost
23	2079	99.7	391	2	AAW53238 Human OCI
24	2079	99.7	401	2	AAR99925 Full leng
25	2079	99.7	401	2	AAW53239 Human OCI

26	2079	99.7	401	2	AAV05742 Tumour ne
27	2079	99.7	401	2	AAW95030 Tumour ne
28	2079	99.7	401	2	AAW83926 Human FTH
29	2079	99.7	401	3	AAV88622 Osteoclas
30	2079	99.7	401	3	AAV18715 A human t
31	2079	99.7	401	4	AAV60570 Human TNF
32	2079	99.7	401	5	ABG73893 Human OP
33	2079	99.7	401	6	AAE36245 Human TRA
34	2079	99.7	401	6	AAO31135 Human TRA
35	2079	99.7	401	6	ABP70997 Human ost
36	2079	99.7	401	7	ADD01625 Human ost
37	2079	99.7	401	7	ADD37427 Human ost
38	2079	99.7	401	7	ADF16158 Human alb
39	2079	99.7	401	7	ADF16153 Human alb
40	2079	99.7	401	7	ADF16151 Human alb
41	2079	99.7	401	7	ADF15231 Human alb
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43	2079	99.7	401	7	ADF16154 Human alb
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45	2079	99.7	401	7	ADF16156 Human alb

ALIGNMENTS

RESULT 1

AAB66988
ID AAB66988 standard; protein; 380 AA.

XX AC AAB66988;

XX DT 19-APR-2001 (first entry)

XX DE Murine OPG cysteine-rich domain.

XX KW Bone loss; osteoprotegerin; OP; rheumatoid arthritis; hyperalgesia;
multiple sclerosis; osteoporosis; asthama; inflammation;
systemic lupus erythematosus; graft-versus-host disease; septic shock;
acute pancreatitis; Alzheimer's disease; anorexia; atherosclerosis; pain;
coronary condition; myocardial infarction; cancer; diabetes; psoriasis;
endometriosis; fever; glomerulonephritis; inflammatory bowel disease;
ischaemia; Parkinson's disease.

XX OS Mus sp.

XX PN WO200103719-A2.

XX PD 18-JAN-2001.

XX PF 07-JUL-2000; 2000WO-US018667.

XX PR 09-JUL-1999; 99US-00350670.

XX PR 09-DEC-1999; 99US-00457647.

XX PA (AMGE-) AMGEN INC.

XX XX Boyle WJ, Lacey DL, Calzone FJ, Chang M, Senaldi G;
WPI, 2001-103031/11.

XX XX Treating conditions leading to bone loss such as rheumatoid arthritis,
multiple sclerosis and asthma, comprises administering an osteoprotegerin
protein in conjunction with e.g. inhibitors of interleukin and tumor
necrosis factor alpha.

XX XX Disclosure; Fig 12; 316pp; English.

XX CC The present invention relates to a method for treating conditions leading
to bone loss. The method comprises administering a purified and isolated
osteoprotegerin (OPG) protein (AAF57836-AAF57838 and AAB66974-AAB66976)
in conjunction with other substances such as tumour necrosis factor-alpha
(TNF-alpha) inhibitors, interleukin (IL)-6, -8 and -18 inhibitors, ICE
modulators, fibroblast growth factor (FGF) 1-10 modulators and/or platelet

```
CC activating factor (PAF) antagonists. The method is useful for treating
CC conditions leading to bone loss such as rheumatoid arthritis, multiple
CC sclerosis, osteoporosis, osteomyelitis and asthma. The method is also
CC useful for treating inflammation, systemic lupus erythematosus (SLE) and
CC graft-versus-host disease (GVHD). Other diseases that can be treated
CC include acute pancreatitis, Alzheimer's disease, anorexia,
CC atherosclerosis, coronary conditions (e.g. myocardial infarction),
CC cancer, diabetes, endometriosis, fever, glomerulonephritis, hyperalgesia,
CC inflammatory bowel disease, ischaemia, pain, Parkinson's disease,
CC psoriasis and septic shock
XX
SQ Sequence 380 AA;

Query Match 100.0%; Score 2085; DB 4; Length 380;
Best Local Similarity 100.0%; Pred. No. 5.4e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 121 CKRCPDGFSSNETSKAPCRKHTNCSVFGLLLTOKGNATHDNI CSGNSESTOKCGIDVTL 180

Qy 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRHSQSQQTOLLKLWKQN 240
Db 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRHSQSQQTOLLKLWKQN 240

Qy 241 KAQDIVKKIQQIDILCENSQRHIGHANLTFEQLRSLMESLPGKVGAEIETKIACKP 300
Db 241 KAQDIVKKIQQIDILCENSQRHIGHANLTFEQLRSLMESLPGKVGAEIETKIACKP 300

Qy 301 SDQILKLLSLWRIKNGDPTLKGMLHALKHSKTYHFKVTQSLKKTIRLHSTMYKLY 360
Db 301 SDQILKLLSLWRIKNGDPTLKGMLHALKHSKTYHFKVTQSLKKTIRLHSTMYKLY 360

Qy 361 QKLFLEMIGNQVSKISCL 380
Db 361 QKLFLEMIGNQVSKISCL 380

RESULT 2
ADM28827
ID ADM28827 standard; protein; 380 AA.
XX
AC ADM28827;
XX
DT 20-MAY-2004 (first entry)
XX
DE Human osteoprotegerin cysteine-rich domains 1-4 plus C-terminus #1.
XX
KW Mouse; OPG; bone resorption; excessive bone loss; osteoporosis;
KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW Riley-day syndrome; immobilisation of extremity; tumour;
KW haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW osteoprotegerin; transgenic.
XX
OS Mus sp.
XX
FN US2003207827-A1.
XX
PD 06-NOV-2003.
XX
PF 24-SEP-1999; 99US-00405032.
```

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XX 22-DEC-1995; 95US-00577788.
PR 03-SEP-1996; 96US-00706945.
PR 20-DEC-1996; 96US-00777777.
PR 12-AUG-1998; 98US-00132985.
XX (BOYL/) BOYLE W J.
PA (LACE/) LACEV D L.
PA (CALZ/) CALZONE F J.
PA (CHAN/) CHANG M.
XX
PI Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX
XX WPI; 2004-041572/04.
XX
XX Novel osteoprotegerin useful for treating conditions resulting in bone
XX loss such as osteoporosis, hypercalcaemia, Paget's disease of bone, bone
XX loss caused by rheumatoid arthritis or osteomyelitis.
XX
XX Disclosure; SEQ ID NO 139; 141pp; English.
XX
XX The invention relates to a purified and isolated polypeptide having
XX osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
XX having amino terminus at residue 22, and 1-216 amino acids are deleted
XX from carboxy terminus of human OPG polypeptide. Also included are an
XX isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
XX vector comprising OPG NA, a host cell transformed or transfected with the
XX vector, a transgenic mammal comprising the cell, producing OPG, a
XX polypeptide comprising an amino acid sequence of at least about 164 amino
XX acids comprising four cysteine-rich domains characteristic of the
XX cysteine rich domains of tumour necrosis factor receptor extracellular
XX regions (and an activity of increasing bone density), an antibody (Ab) or
XX its fragment which specifically binds to OPG, a composition comprising
XX OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
XX and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
XX Ab is useful for detecting the presence of OPG in a biological sample
XX which involves incubating the sample with Ab under conditions that allow
XX binding of ab to OPG and detecting the bound Ab. OPG is useful for
XX assessing the ability of a candidate substance to bind to OPG. OPG NA is
XX useful for regulating the levels of OPG in an animal (human). The nucleic
XX acid promotes an increasing in tissue level of OPG. OPG is useful for
XX treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
XX disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
XX osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
XX osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
XX method further involves administering a substance chosen from bone
XX morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
XX inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
XX parathyroid hormone related protein and their analogues, E series of
XX prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
XX useful for treating osteoporosis such as primary osteoporosis, endocrine
XX osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
XX hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
XX , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
XX osteoporosis due to immobilisation of extremities, hypercalcaemia
XX resulting from solid tumours and haematologic malignancies (multiple
XX myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
XX hypercalcaemia associated with hyperthyroidism and renal function
XX disorders, osteopaenia following surgery and osteonecrosis or bone cell
XX death. The present sequences is an OPG protein (or fragment).
XX
SQ Sequence 380 AA;

Query Match 100.0%; Score 2085; DB 8; Length 380;
Best Local Similarity 100.0%; Pred. No. 5.4e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFFPKYLHYDEETSHQLLCKDCPPGYLKHQCTAKWKTVCAPCPDHYTDSWHTSDECL 60
Db 1 ETFFPKYLHYDEETSHQLLCKDCPPGYLKHQCTAKWKTVCAPCPDHYTDSWHTSDECL 60

Qy 61 YCSPVKELQYVQKQECNRTHNRVCEKGRYLETFCLKHRSQCPDHYTDSWHTSDECL 120
Db 61 YCSPVKELQYVQKQECNRTHNRVCEKGRYLETFCLKHRSQCPDHYTDSWHTSDECL 120
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Db 61 YCSPVCKELQYVVKQECNTHNRVCECKEGRYLEIEFCLKHSRCPGPGVGVQAGTPERNVT 120
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 Db 181 CEEAFFRAVPTKFTPNWLSVLVDNLPCTKVAESVERIKRQHSSEOTFOLLKLWKHQ 240
 Qy 241 KAQDIVKKIIQDIDLCENSQVQRHIGHANLTFEQLRSLMESLPKGVGAEDIEKTKACKP 300
 Db 241 KAQDIVKKIIQDIDLCENSQVQRHIGHANLTFEQLRSLMESLPKGVGAEDIEKTKACKP 300
 Qy 301 SDQILKLLSLWRINKGDDDTLKGMLHALKHSKTYHFPKVTQSLKKTIRFLHSFTMYKLY 360
 Db 301 SDQILKLLSLWRINKGDDDTLKGMLHALKHSKTYHFPKVTQSLKKTIRFLHSFTMYKLY 360
 Qy 361 QKLFLEMIGNQVQSVKISCL 380
 Db 361 QKLFLEMIGNQVQSVKISCL 380

RESULT 3

ADM28870

ID ADM28870 standard; protein; 381 AA.

XX ADM28870;

AC ADM28870;

XX ADM28870;

DT 20-MAY-2004 (first entry)

XX ADM28870;

DE Human OPG truncation mutant, OPG met[22-401].

XX ADM28870;

KW Human; OPG; bone resorption; excessive bone loss; osteoporosis;

KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;

KW steroid-induced osteopenia; rheumatoid arthritis; osteomyelitis;

KW osteolytic metastasis; periodontal bone loss; Cushing's syndrome;

KW acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;

KW Riley-day syndrome; immobilisation of extremity; tumour;

KW haematologic malignancy; multiple myeloma; lymphoma; leukaemia;

KW renal function disorder; osteopenia; osteonecrosis; bone cell death;

KW osteoprotegerin; transgenic; mutant; mutein.

XX ADM28870;

OS Homo sapiens.

OS Synthetic.

XX ADM28870;

XX ADM28870;

XX ADM28870;

XX ADM28870;

XX ADM28870;

XX ADM28870;

XX ADM28870;

XX ADM28870;

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XX ADM28870;

XX ADM28870;

XX ADM28870;

XX ADM28870;

XX ADM28870;

XX ADM28870;

XX ADM28870;

CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
 CC having amino terminus at residue 22, and 1-216 amino acids are deleted
 CC from carboxy terminus of human OPG polypeptide. Also included are an
 CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
 CC vector comprising OPG NA, a host cell transformed or transfected with the
 CC vector, a transgenic mammal comprising the cell, producing OPG, a
 CC polypeptide comprising an amino acid sequence of at least about 164 amino
 CC acids comprising four cysteine-rich domains characteristic of the
 CC cysteine rich domains of tumour necrosis factor receptor extracellular
 CC regions (and an activity of increasing bone density), an antibody (Ab) or
 CC its fragment which specifically binds to OPG, a composition comprising
 CC OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
 CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
 CC Ab is useful for detecting the presence of OPG in a biological sample
 CC which involves incubating the sample with Ab under conditions that allow
 CC binding of Ab to OPG and detecting the bound Ab. OPG is useful for
 CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
 CC useful for regulating the levels of OPG in an animal (human). The nucleic
 CC acid promotes an increasing in tissue level of OPG. OPG is useful for
 CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
 CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
 CC osteopenia, bone loss due to rheumatoid arthritis, bone loss due to
 CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
 CC method further involves administering a substance chosen from bone
 CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
 CC inhibitor, TNF-alpha inhibitors, parathyroid hormone and their analogues,
 CC parathyroid hormone related protein and their analogues, a series of
 CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
 CC useful for treating osteoporosis such as primary osteoporosis, endocrine
 CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
 CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
 CC, homocystinuria, Menke's syndrome, and Riley-day syndrome) and
 CC osteoporosis due to immobilisation of extremities, hypercalcaemia
 CC resulting from solid tumours and haematologic malignancies (multiple
 CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
 CC hypercalcaemia associated with hyperthyroidism and renal function
 CC disorders, osteopenia following surgery and osteonecrosis or bone cell
 CC death. The present sequences is an OPG truncation/deletion or
 CC substitution mutant protein (or fragment).

Sequence 381 AA;

Query Match 100.0%; Score 2085; DB 8; Length 381;

Best Local Similarity 100.0%; Pred. No. 5.4e-153;

Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFFPKYLHYDEETSHOLLCDKCPGTYLKQHTAKWTVCAPCPDHYTDSWHTSDECL 60
 Db 2 ETFFPKYLHYDEETSHOLLCDKCPGTYLKQHTAKWTVCAPCPDHYTDSWHTSDECL 61
 Qy 61 YCSPVCKELQYVVKQECNTHNRVCECKEGRYLEIEFCLKHSRCPGPGVGVQAGTPERNVT 120
 Db 62 YCSPVCKELQYVVKQECNTHNRVCECKEGRYLEIEFCLKHSRCPGPGVGVQAGTPERNVT 121
 Qy 121 CKRCPDGFNSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIICSGNSESTQKCGIDVT 180
 Db 122 CKRCPDGFNSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNIICSGNSESTQKCGIDVT 181
 Qy 181 CEEAFFRAVPTKFTPNWLSVLVDNLPCTKVAESVERIKRQHSSEOTFOLLKLWKHQ 240
 Db 182 CEEAFFRAVPTKFTPNWLSVLVDNLPCTKVAESVERIKRQHSSEOTFOLLKLWKHQ 241
 Qy 241 KAQDIVKKIIQDIDLCENSQVQRHIGHANLTFEQLRSLMESLPKGVGAEDIEKTKACKP 300
 Db 242 KAQDIVKKIIQDIDLCENSQVQRHIGHANLTFEQLRSLMESLPKGVGAEDIEKTKACKP 301
 Qy 301 SDQILKLLSLWRINKGDDDTLKGMLHALKHSKTYHFPKVTQSLKKTIRFLHSFTMYKLY 360
 Db 302 SDQILKLLSLWRINKGDDDTLKGMLHALKHSKTYHFPKVTQSLKKTIRFLHSFTMYKLY 361
 Qy 361 QKLFLEMIGNQVQSVKISCL 380
 Db 362 QKLFLEMIGNQVQSVKISCL 381

Novel osteoprotegerin useful for treating conditions resulting in bone
 loss such as osteoporosis, hypercalcaemia, Paget's disease of bone, bone
 loss caused by rheumatoid arthritis or osteomyelitis.

Claim 37; Page; 141pp; English.

The invention relates to a purified and isolated polypeptide having

RESULT 4
ADM28869
ID ADM28869 standard; protein; 382 AA.
XX
AC ADM28869;
XX
DT 20-MAY-2004 (first entry)
XX
DE Human OPG truncation mutant, OPG met-lys[22-401].
XX
KW Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW Riley-day syndrome; immobilisation of extremity; tumour;
KW haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW osteoprotegerin; transgenic; mutant; mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN US2003207827-A1.
XX
PD 06-NOV-2003.
XX
XX 24-SEP-1999; 99US-00405032.
XX
XX 22-DEC-1995; 95US-00577788.
PR 03-SEP-1996; 96US-00706945.
PR 20-DEC-1996; 96US-00711777.
PR 12-AUG-1998; 98US-00132985.
XX
XX (BOYLE/) BOYLE W J.
PA (LACEY/) LACEY D L.
PA (CALZI/) CALZONE F J.
PA (CHAN/) CHANG M.
XX
XX Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX WPI; 2004-041572/04.
XX
XX Novel osteoprotegerin useful for treating conditions resulting in bone
PT loss such as osteoporosis, hypercalcaemia, Paget's disease of bone, bone
PT loss caused by rheumatoid arthritis or osteomyelitis.
XX
XX Claim 37; Page; 141pp; English.
XX
XX The invention relates to a purified and isolated polypeptide having
CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC having amino terminus at residue 22, and 1-216 amino acids are deleted
CC from carboxy terminus of human OPG polypeptide. Also included are an
CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC vector comprising OPG NA, a host cell transformed or transfected with the
CC polypeptide comprising an amino acid sequence of at least about 164 amino
CC acids comprising four cysteine-rich domains characteristic of the
CC cysteine rich domains of tumour necrosis factor receptor extracellular
CC regions (and an activity of increasing bone density), an antibody (Ab) or
CC its fragment which specifically binds to OPG, a composition comprising
CC OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC Ab is useful for detecting the presence of OPG in a biological sample
CC which involves incubating the sample with Ab under conditions that allow
CC binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC useful for regulating the levels of OPG in an animal (human). The nucleic
CC acid promotes an increasing in tissue level of OPG. OPG is useful for
CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced

CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC method further involves administering a substance chosen from bone
CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC parathyroid hormone related protein and their analogues, E series of
CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC useful for treating osteoporosis such as primary osteoporosis, endocrine
CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC, homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC osteoporosis due to immobilisation of extremities, hypercalcaemia
CC resulting from solid tumours and haematologic malignancies (multiple
CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC hypercalcaemia associated with hyperthyroidism and renal function
CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC death. The present sequences is an OPG truncation/deletion or
CC substitution mutant protein (or fragment).
XX
SQ Sequence 382 AA;
Query Match 100.0%; Score 2085; DB 8; Length 382;
Best Local Similarity 100.0%; Pred. No. 5.5e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 ETPPKYLHYDEETSHQLCDKCPGGTYLKHQCTAKWTVCAPCPDHYYTDSWHTSDECL 60
DB 3 ETPPKYLHYDEETSHQLCDKCPGGTYLKHQCTAKWTVCAPCPDHYYTDSWHTSDECL 62
QY 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLIEFCLKHRSCPPGGVVOAGTPERNTV 120
DB 63 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLIEFCLKHRSCPPGGVVOAGTPERNTV 122
QY 121 CKPCPDGFFSNETSSKAPCKHNTCSVFGLLLTQKGNATHDNCISGSESTQKCGIDVTL 180
DB 123 CKPCPDGFFSNETSSKAPCKHNTCSVFGLLLTQKGNATHDNCISGSESTQKCGIDVTL 182
QY 181 CEAPFRFAVPTKFTPNWLSVLDNLPGTKVNAESVERIKRQHSQSQTQLLKLWKHQN 240
DB 183 CEAPFRFAVPTKFTPNWLSVLDNLPGTKVNAESVERIKRQHSQSQTQLLKLWKHQN 242
QY 241 KAQDIVKKIIQIDILCENSVDRIHGHANLTFEQLRSLMESLPKGVGAEDIEKTIKACKP 300
DB 243 KAQDIVKKIIQIDILCENSVDRIHGHANLTFEQLRSLMESLPKGVGAEDIEKTIKACKP 302
QY 301 SDQILKLLSLWRINKGDDTLKGLMHALKSKTYHFFPKTVTQSLKKTIRFLHSFTMYKLY 360
DB 303 SDQILKLLSLWRINKGDDTLKGLMHALKSKTYHFFPKTVTQSLKKTIRFLHSFTMYKLY 362
QY 361 QKLFLFLEMIGNOVOSVKISCL 380
DB 363 QKLFLFLEMIGNOVOSVKISCL 382
RESULT 5
ADM28876
ID ADM28876 standard; protein; 385 AA.
XX
AC ADM28876;
XX
DT 20-MAY-2004 (first entry)
XX
DE Human OPG truncation mutant, OPG met-met-(lys)3[22-401].
XX
KW Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW Riley-day syndrome; immobilisation of extremity; tumour;
KW haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW osteoprotegerin; transgenic; mutant; mutein.

XX OS Homo sapiens.
OS Synthetic.
XX US2003207827-A1.
XX 06-NOV-2003.
XX 24-SEP-1999; 99US-00405032.
XX 22-DEC-1995; 95US-00577788.
XX 03-SEP-1996; 96US-00706945.
XX 20-DEC-1996; 96US-00771777.
XX 12-AUG-1998; 98US-00132985.
XX (BOYL/) BOYLE W J.
XX (LACE/) LACEY D L.
XX (CALZ/) CALZONE F J.
XX (CHAN/) CHANG M.
XX Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX WPI; 2004-041572/04.
XX Novel osteoprotegerin useful for treating conditions resulting in bone
XX loss such as osteoporosis, hypercalcaemia, Paget's disease of bone, bone
XX loss caused by rheumatoid arthritis or osteomyelitis.
XX Claim 37; Page; 141pp; English.
XX The invention relates to a purified and isolated polypeptide having
XX osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
XX having amino terminus at residue 22, and 1-216 amino acids are deleted
XX from carboxy terminus of human OPG polypeptide. Also included are an
XX isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
XX vector comprising OPG NA, a host cell transformed or transfected with the
XX vector, a transgenic mammal comprising the cell, producing OPG, a
XX polypeptide comprising an amino acid sequence of at least about 164 amino
XX acids comprising four cysteine-rich domains characteristic of the
XX cysteine rich domains of tumour necrosis factor receptor extracellular
XX regions (and an activity of increasing bone density), an antibody (Ab) or
XX its fragment which specifically binds to OPG, a composition comprising
XX OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
XX and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
XX Ab is useful for detecting the presence of OPG in a biological sample
XX which involves incubating the sample with Ab under conditions that allow
XX binding of ab to OPG and detecting the bound Ab. OPG is useful for
XX assessing the ability of a candidate substance to bind to OPG. OPG NA is
XX useful for regulating the levels of OPG in an animal (human). The nucleic
XX acid promotes an increasing in tissue level of OPG. OPG is useful for
XX treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
XX disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
XX osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
XX osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
XX method further involves administering a substance chosen from bone
XX morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
XX inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
XX parathyroid hormone related protein and their analogues, E series of
XX prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
XX useful for treating osteoporosis such as primary osteoporosis, endocrine
XX osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
XX hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
XX , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
XX osteoporosis due to immobilisation of extremities, hypercalcaemia
XX resulting from solid tumours and haematologic malignancies (multiple
XX myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
XX hypercalcaemia associated with hyperthyroidism and renal function
XX disorders, osteopaenia following surgery and osteonecrosis or bone cell
XX death. The present sequences is an OPG truncation/deletion or
XX substitution mutant protein (or fragment).
XX Sequence 385 AA;

Query Match 100.0%; Score 2085; DB 8; Length 385;
Best Local Similarity 100.0%; Pred. No. 5.5e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 ETFPKYLHYDBETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYVYVDSWHTSDECL 60
DB 6 ETFPKYLHYDBETSHQLLCKPCPGTYLKQHCTAKWKTVCAPCPDHYVYVDSWHTSDECL 65
QY 61 YCSPVCKELQYVQECNRTHNRVCECKEGRYLEIFELFKHRSCTPPGFGVQAGTPERNTV 120
DB 66 YCSPVCKELQYVQECNRTHNRVCECKEGRYLEIFELFKHRSCTPPGFGVQAGTPERNTV 125
QY 121 CKRCPDGFSSNETSKAPCRKHTNCSVFLGALLTQKGNATHDNI CSNSESQTQKCGIDVTL 180
DB 126 CKRCPDGFSSNETSKAPCRKHTNCSVFLGALLTQKGNATHDNI CSNSESQTQKCGIDVTL 185
QY 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNASVERIKRQHSQEQTFOLLKLWKHQN 240
DB 186 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNASVERIKRQHSQEQTFOLLKLWKHQN 245
QY 241 KAQDIVKKIIQIDILCENSQVRHIGHANLTPEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
DB 246 KAQDIVKKIIQIDILCENSQVRHIGHANLTPEQLRSLMESLPGKKVGAEDIEKTIKACKP 305
QY 301 SDQILKLLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKTVTOSLKKTIRFLHSFTMYKLY 360
DB 306 SDQILKLLSLWRIKNGDQDTLKGMLHALKHSKTYHFPKTVTOSLKKTIRFLHSFTMYKLY 365
QY 361 QKLFLEMIGNQVQSVKISCL 380
DB 366 QKLFLEMIGNQVQSVKISCL 385
RESULT 6
ADM28877
ID ADM28877 standard; protein; 391 AA.
XX AC ADM28877;
XX DT 20-MAY-2004 (first entry)
XX DE Human OPG truncation mutant, OPG met-met-arg-gly-ser- (His) 6(22-401).
XX KW Human; OPG; bone resorption; excessive bone loss; osteoporosis;
XX Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
XX steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
XX osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
XX acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
XX Riley-day syndrome; immobilisation of extremity; tumour;
XX haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
XX renal function disorder; osteopaenia; osteonecrosis; bone cell death;
XX osteoprotegerin; transgenic; mutant; mutein.
XX OS Homo sapiens.
XX OS Synthetic.
XX US2003207827-A1.
XX 06-NOV-2003.
XX 24-SEP-1999; 99US-00405032.
XX 22-DEC-1995; 95US-00577788.
XX 03-SEP-1996; 96US-00706945.
XX 20-DEC-1996; 96US-00771777.
XX 12-AUG-1998; 98US-00132985.
XX (BOYL/) BOYLE W J.
XX (LACE/) LACEY D L.
XX (CALZ/) CALZONE F J.
XX (CHAN/) CHANG M.
XX Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX WPI; 2004-041572/04.

XX WPI; 2004-041572/04.
XX Novel osteoprotegerin useful for treating conditions resulting in bone
PT loss such as osteoporosis, hypercalcaemia, Paget's disease of bone, bone
PT loss caused by rheumatoid arthritis or osteomyelitis.
XX Claim 37; Page; 141pp; English.
XX The invention relates to a purified and isolated polypeptide having
CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC having amino terminus at residue 22, and 1-216 amino acids are deleted
CC from carboxy terminus of human OPG polypeptide. Also included are an
CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC vector comprising OPG NA, a host cell transformed or transfected with the
CC vector, a transgenic mammal comprising the cell, producing OPG, a
CC polypeptide comprising an amino acid sequence of at least about 164 amino
CC acids comprising four cysteine-rich domains characteristic of the
CC cysteine rich domains of tumour necrosis factor receptor extracellular
CC regions (and an activity of increasing bone density), an antibody (Ab) or
CC its fragment which specifically binds to OPG, a composition comprising
CC OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC Ab is useful for detecting the presence of OPG in a biological sample
CC which involves incubating the sample with Ab under conditions that allow
CC binding of Ab to OPG and detecting the bound Ab. OPG is useful for
CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC useful for regulating the levels of OPG in an animal (human). The nucleic
CC acid promotes an increasing in tissue level of OPG. OPG is useful for
CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC method further involves administering a substance chosen from bone
CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC parathyroid hormone related protein and their analogues, E series of
CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC useful for treating osteoporosis such as primary osteoporosis, endocrine
CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC, homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC osteoporosis due to immobilisation of extremities, hypercalcaemia
CC resulting from solid tumours and haematologic malignancies (multiple
CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC hypercalcaemia associated with hyperthyroidism and renal function
CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC death. The present sequences is an OPG truncation/deletion or
CC substitution mutant protein (or fragment).
XX SQ Sequence 391 AA;

Query Match 100.0%; Score 2085; DB 8; Length 391;
Best Local Similarity 100.0%; Pred. No. 5.6e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETTPPKYLHYDEETSHQLLDCDPCPPGYLKQHTAKWTKVACPDHYTDSWHTSDECL 60
Db 12 ETTPPKYLHYDEETSHQLLDCDPCPPGYLKQHTAKWTKVACPDHYTDSWHTSDECL 71
Qy 61 YCSPVCKELQVQKQECNTHNRVCECKRGYLEIEFCLKHSRCPFGVQVQAGTPERNTV 120
Db 72 YCSPVCKELQVQKQECNTHNRVCECKRGYLEIEFCLKHSRCPFGVQVQAGTPERNTV 131
Qy 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFLGLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
Db 132 CKRCPDGFSSNETSSKAPCRKHTNCSVFLGLLTQKGNATHDNI CSGNSESTQKCGIDVTL 191
Qy 181 CEEAFFRFAVTKTTPNWLVLVDNLPCTKVNASVERIKQHSQEQTFOLLKLWKHQN 240
Db 192 CEEAFFRFAVTKTTPNWLVLVDNLPCTKVNASVERIKQHSQEQTFOLLKLWKHQN 251
Qy 241 KAQDIVKKIIQDIDLCEMSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIETIKACKP 300

Db 252 KAQDIVKKIIQDIDLCEMSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIETIKACKP 311
Qy 301 SDQILKLLSLWRITKNGDQDTLKGMLHAKHSKTYHFPKTVTQSLKKTIRLHSPFTMYKLY 360
Db 312 SDQILKLLSLWRITKNGDQDTLKGMLHAKHSKTYHFPKTVTQSLKKTIRLHSPFTMYKLY 371
Qy 361 OKLFLEMIQNOVQSVKISCL 380
Db 372 OKLFLEMIQNOVQSVKISCL 391
RESULT 7
ABU08820
ID ABU08820 standard; protein; 400 AA.
XX AC ABU08820;
XX DT 13-AUG-2003 (first entry)
XX DE Human osteoprotegerin protein.
XX KW Human; osteoprotegerin; endothelial morphogenesis; capillary formation.
XX OS Homo sapiens.
XX PN US2003022834-A1.
XX PD 30-JAN-2003.
XX PF 09-MAY-2002; 2002US-00142658.
XX PR 10-MAY-2001; 2001US-0290230P.
XX PA (MALY/) MALYANKAR U M.
XX PA (SCAT/) SCATENA M.
XX PA (GIAC/) GIACHELLI C M.
XX PI Malyankar UM, Scatena M, Giachelli CM;
XX WPI; 2003-479494/45.
DR N-PSDB; ABX93089.
XX Promoting endothelial morphogenesis for promoting formation of blood
PT vessels, e.g. capillaries, in vivo in an area of damaged mammalian heart
PT muscle, involves providing osteoprotegerin to one or more endothelial
PT cells.
XX Claim 3; Page 9-10; 15pp; English.
XX This invention relates to a novel method for promoting endothelial
CC morphogenesis, comprises providing osteoprotegerin to one or more
CC endothelial cells. The invention also discloses an implantable medical
CC device comprising a device body and a layer attached to a surface of the
CC device body. The layer comprises a molecule such as osteoprotegerin or a
CC nucleic acid molecule encoding osteoprotegerin, where the device is
CC adapted to be completely or partially implanted into an animal body. The
CC method of the invention is useful for promoting in vivo endothelial
CC morphogenesis, such as the formation of capillaries which are formed in
CC tissue (e.g. heart tissue) adjacent to an implanted medical device or the
CC formation of an endothelial lining in a blood vessel, an artificial or
CC natural blood vessel. The method is also useful for promoting endothelial
CC morphogenesis in vitro. The method is also useful for promoting endothelial
CC promoting endothelial morphogenesis in any situation, e.g. promotion of
CC blood vessel growth in and around damaged heart muscle. The implanted
CC medical device promotes the growth of blood vessels in the surrounding
CC tissue, thereby reducing or preventing the formation of a collagenous
CC capsule around the implanted medical device and foreign body reaction.
CC The method is useful for promoting formation of blood vessels in vivo
CC such as in an area of mammalian heart muscle that has been damaged, such
CC as by reduced blood flow resulting from heart attack. The present
CC sequence represents the human Osteoprotegerin protein which is used in
CC the method of the invention to promote endothelial morphogenesis

```
XX Sequence 400 AA;
SQ Query Match 100.0%; Score 2085; DB 6; Length 400;
Best Local Similarity 100.0%; Pred. No. 5.8e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPPKYLHYDEETSHQLLCKCPGTYLKQCTAKWKTVCAPCPDHYTDSWHTSDSCL 60
DB 21 ETPPKYLHYDEETSHQLLCKCPGTYLKQCTAKWKTVCAPCPDHYTDSWHTSDSCL 80

QY 61 YCSPVKELQYVQECNTHNRVCECKEGRYLEIEFCLKHSRCPGFGVWQAGTPERNTV 120
DB 81 YCSPVKELQYVQECNTHNRVCECKEGRYLEIEFCLKHSRCPGFGVWQAGTPERNTV 140

QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
DB 141 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 200

QY 181 CEEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERIKQHSOQOTFOLLKLWKQON 240
DB 201 CEEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERIKQHSOQOTFOLLKLWKQON 260

QY 241 KAQDIVKKIIQDIDL CENS VQRHIGHANLTPEQLRS LMESLP GKVKVGAEDIEKTIKACP 300
DB 261 KAQDIVKKIIQDIDL CENS VQRHIGHANLTPEQLRS LMESLP GKVKVGAEDIEKTIKACP 320

QY 301 SDQILKLLSLMRIKNGDQDTL KGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
DB 321 SDQILKLLSLMRIKNGDQDTL KGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 380

QY 361 QKLFLEMIGNOVQSVKISCL 380
DB 381 QKLFLEMIGNOVQSVKISCL 400

RESULT 8
AAW38345
ID AAW38345 standard; protein; 401 AA.
AC AAW38345;
XX
XX 20-APR-1998 (first entry)
XX
XX Human osteoprotegerin.
DE
DE Osteoprotegerin; antibody; diagnosis; affinity purification;
KW recombinant production; transgenic animal; treatment; prevention;
KW antisense oligonucleotide; probe; detection; screening; human;
KW bone disease; osteoporosis; Paget's disease; hypercalcaemia;
KW hyperparathyroidism; rheumatoid arthritis; osteomyelitis;
KW osteolytic metastasis; periodontal bone loss; bone necrosis; osteopaenia.
XX
XX Homo sapiens.
XX
XX DE19654610-A1.
XX
XX 26-JUN-1997.
XX
XX 20-DEC-1996; 96DE-01054610.
XX
XX 22-DEC-1995; 95US-00577988.
PR 03-SEP-1996; 96US-00706945.
XX
XX (AMGE-) AMGEN INC.
XX
XX Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX
XX WPI; 1997-334271/31.
DR N-PSDB; AAT96063.
XX
XX Nucleic acid encoding osteoprotegerin - useful for treatment of diseases
PT involving excessive bone loss, e.g. osteoporosis.
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XX Claim 23; Page 109-111; 182pp; German.
XX
XX The present sequence is human osteoprotegerin (OPG). Anti-OPG antibodies
CC can be used in OPG diagnostic assays, and as affinity purification
CC materials. The OPG cDNA can be used to express recombinant OPG and to
CC generate transgenic animals. It can also be used to regulate the level of
CC OPG in mammals, specifically to increase OPG levels, however the use of
CC antisense sequences is also contemplated. Fragments of the cDNA can be
CC used as probes to detect OPG expressing cells and tissue, and to screen
CC cDNA libraries for related sequences. OPG can be used to treat or prevent
CC bone diseases, specifically excessive bone loss, e.g. osteoporosis,
CC Paget's disease, hypercalcaemia, hyperparathyroidism, rheumatoid
CC arthritis, osteomyelitis, osteolytic metastases, periodontal bone loss,
CC bone necrosis and osteopaenia
XX
XX Sequence 401 AA;
SQ Query Match 100.0%; Score 2085; DB 2; Length 401;
Best Local Similarity 100.0%; Pred. No. 5.8e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPPKYLHYDEETSHQLLCKCPGTYLKQCTAKWKTVCAPCPDHYTDSWHTSDSCL 60
DB 22 ETPPKYLHYDEETSHQLLCKCPGTYLKQCTAKWKTVCAPCPDHYTDSWHTSDSCL 81

QY 61 YCSPVKELQYVQECNTHNRVCECKEGRYLEIEFCLKHSRCPGFGVWQAGTPERNTV 120
DB 82 YCSPVKELQYVQECNTHNRVCECKEGRYLEIEFCLKHSRCPGFGVWQAGTPERNTV 141

QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
DB 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201

QY 181 CEEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERIKQHSOQOTFOLLKLWKQON 240
DB 202 CEEAFFRFAVPTKFTPNWLSVLDNLPCTKVNAESVERIKQHSOQOTFOLLKLWKQON 261

QY 241 KAQDIVKKIIQDIDL CENS VQRHIGHANLTPEQLRS LMESLP GKVKVGAEDIEKTIKACP 300
DB 262 KAQDIVKKIIQDIDL CENS VQRHIGHANLTPEQLRS LMESLP GKVKVGAEDIEKTIKACP 321

QY 301 SDQILKLLSLMRIKNGDQDTL KGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
DB 322 SDQILKLLSLMRIKNGDQDTL KGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

QY 361 QKLFLEMIGNOVQSVKISCL 380
DB 382 QKLFLEMIGNOVQSVKISCL 401

RESULT 9
AAW43400
ID AAW43400 standard; protein; 401 AA.
XX
XX AC AAW43400;
XX
XX 28-JAN-2000 (first entry)
XX
XX Osteoprotegerin protein sequence.
DE
XX
XX Osteoprotegerin; OPG; human; cardiovascular disease; occlusion;
KW calcification; blood vessel; atherosclerosis; medial calcific sclerosis;
KW Monckeberg's arteriosclerosis; therapy.
XX
XX Homo sapiens.
XX
XX WO9953942-A1.
XX
XX 28-OCT-1999.
XX
XX 21-APR-1999; 99WO-US008793.
XX
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PR 23-APR-1998; 98US-00064832.
XX (AMGE-) AMGEN INC.
XX Simonet S, Sarosi I;
XX WPI; 2000-013182/01.
DR N-PSDB; AAZ37254.
XX
PT Treating and preventing cardiovascular diseases, especially
PT atherosclerosis and Monckeberg's arteriosclerosis.
XX
PS Claim 9; Page 37-39; 43pp; English.
XX
CC This sequence represents the human osteoprotegerin (OPG). The invention
CC relates to a method of treating or preventing cardiovascular disease by
CC administering OPG. The method can be used to treat and prevent
CC cardiovascular diseases associated with occlusion and calcification of
CC blood vessels, especially atherosclerosis or Monckeberg's
CC arteriosclerosis, i.e. medial calcific sclerosis. Using OPG to treat or
CC prevent cardiovascular diseases provides an alternative to invasive
CC treatments. OPG can be used as a single therapeutic for prevention and
CC treatment of both osteoporosis and cardiovascular diseases
XX
SQ Sequence 401 AA;

Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 5.8e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPPPKYLHYDEETSHOLLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
DB 22 ETPPPKYLHYDEETSHOLLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
QY 61 YCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGGVQAGTPERNTV 120
DB 82 YCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGGVQAGTPERNTV 141
QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
DB 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201
QY 181 CEEAFFRFAVPTKFTPNWLSVLDNLPCTKNVASEVERIKRQHSQEQTFOLLKWKHQH 240
DB 202 CEEAFFRFAVPTKFTPNWLSVLDNLPCTKNVASEVERIKRQHSQEQTFOLLKWKHQH 261
QY 241 KAQDIVVKIIQDIDL CENSQVRHIGHANLTPEQLRSLMESLP GKKGVAEDIEKTIKACKP 300
DB 262 KAQDIVVKIIQDIDL CENSQVRHIGHANLTPEQLRSLMESLP GKKGVAEDIEKTIKACKP 321
QY 301 SDQILKLLSLWRIRKNGDDDTL KGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
DB 322 SDQILKLLSLWRIRKNGDDDTL KGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
QY 361 QKLFLEMIGNQVQSVKISCL 380
DB 382 QKLFLEMIGNQVQSVKISCL 401

RESULT 10
AAB66976
ID AAB66976 standard; protein; 401 AA.
AC AAB66976;
XX
XX 19-APR-2001 (first entry)
XX
XX Human OPG.
XX
XX Bone loss; osteoprotegerin; OPG; rheumatoid arthritis; hyperalgesia;
KW multiple sclerosis; osteoporosis; osteomyelitis; asthma; inflammation;
KW systemic lupus erythematosus; graft-versus-host disease; septic shock;
KW acute pancreatitis; Alzheimer's disease; anorexia; atherosclerosis; pain;

```

```
KW coronary condition; myocardial infarction; cancer; diabetes; psoriasis;
KW endometriosis; fever; glomerulonephritis; inflammatory bowel disease;
KW ischaemia; Parkinson's disease.
XX
OS Homo sapiens.
XX
PN WC200103719-A2.
XX
PD 18-JAN-2001.
XX
XX 07-JUL-2000; 2000WO-US018667.
PF
XX 09-JUL-1999; 99US-00350670.
PR 09-DEC-1999; 99US-00457647.
XX
XX (AMGE-) AMGEN INC.
PA
XX
XX Boyle WJ, Lacey DL, Calzone FU, Chang M, Senaldi G;
XX WPI; 2001-103031/11.
XX N-PSDB; AAF57838.
DR
XX Treating conditions leading to bone loss such as rheumatoid arthritis,
XX multiple sclerosis and asthma, comprises administering an osteoprotegerin
XX protein in conjunction with e.g. inhibitors of interleukin and tumor
XX necrosis factor alpha.
XX
XX Example 5; Fig 9; 316pp; English.
PS
XX
XX The present invention relates to a method for treating conditions leading
XX to bone loss. The method comprises administering a purified and isolated
XX osteoprotegerin (OPG) protein (AAF57836-AAF57838 and AAB66974-AAB66976)
XX in conjunction with other substances such as tumour necrosis factor-alpha
XX (TNF-alpha) inhibitors, interleukin (IL)-6, -8 and -18 inhibitors. IGE
XX modulators, fibroblast growth factor (FGF)1-10 modulators and/or platelet
XX activating factor (PAF) antagonists. The method is useful for treating
XX conditions leading to bone loss such as rheumatoid arthritis, multiple
XX sclerosis, osteoporosis, osteomyelitis and asthma. The method is also
XX useful for treating inflammation, systemic lupus erythematosus (SLE) and
XX graft-versus-host disease (GVHD). Other diseases that can be treated
XX include acute pancreatitis, Alzheimer's disease, anorexia,
XX atherosclerosis, coronary conditions (e.g. myocardial infarction),
XX cancer, diabetes, endometriosis, fever, glomerulonephritis, hyperalgesia,
XX inflammatory bowel disease, ischaemia, pain, Parkinson's disease,
XX psoriasis and septic shock
XX
XX Sequence 401 AA;

Query Match 100.0%; Score 2085; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 5.8e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ETPPPKYLHYDEETSHOLLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
DB 22 ETPPPKYLHYDEETSHOLLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81
QY 61 YCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGGVQAGTPERNTV 120
DB 82 YCSPVCKELQYVQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGGVQAGTPERNTV 141
QY 121 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 180
DB 142 CKRCPDGFSSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNI CSGNSESTQKCGIDVTL 201
QY 181 CEEAFFRFAVPTKFTPNWLSVLDNLPCTKNVASEVERIKRQHSQEQTFOLLKWKHQH 240
DB 202 CEEAFFRFAVPTKFTPNWLSVLDNLPCTKNVASEVERIKRQHSQEQTFOLLKWKHQH 261
QY 241 KAQDIVVKIIQDIDL CENSQVRHIGHANLTPEQLRSLMESLP GKKGVAEDIEKTIKACKP 300
DB 262 KAQDIVVKIIQDIDL CENSQVRHIGHANLTPEQLRSLMESLP GKKGVAEDIEKTIKACKP 321
QY 301 SDQILKLLSLWRIRKNGDDDTL KGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360

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Db 322 SDQILKLLSLWRIKNGDQDTLKGMLHAKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
QY 361 QKLFLEMIGNQVQSVKISCL 380
Db 382 QKLFLEMIGNQVQSVKISCL 401
RESULT 11
ID ABG71823 standard; protein; 401 AA.
XX AC ABG71823;
DT 14-APR-2003 (first entry)
XX DE Wild type human OPG (osteoprotegerin) protein.
XX KW RANKL; human receptor activator of NFkappaB; osteoprotegerin; OPG;
KW RANK ligand; osteoclastogenesis; osteoclast inhibitor; gene therapy;
KW osteoporosis; bone disease; human.
XX OS Homo sapiens.
XX WO200264782-A2.
XX PD 22-AUG-2002.
XX PF 08-FEB-2002; 2002WO-DK000090.
XX PR 09-FEB-2001; 2001DK-00000214.
XX PR 09-FEB-2001; 2001US-0267843P.
XX PR 23-MAR-2001; 2001DK-00000498.
XX PR 23-MAR-2001; 2001US-0278320P.
XX PA (MAXY-) MAXYGEN HOLDINGS LTD.
XX PI Haaning JM, Halkier T;
XX WPI; 2002-691592/74.
XX Novel human receptor activator of NFkappaB (hrANK) or human
XX osteoprotegerin (hOPG) variant polypeptides which bind to RANK ligand
XX (RANKL) with equivalent binding affinity as hrANK or hOPG, useful for
XX treating osteoporosis.
XX Example 6; Fig 2; 129pp; English.
XX This invention relates to a novel mutant proteins having an amino acid
XX sequence that is different from and is at least about 70% identical to
XX the amino acid sequence of human receptor activator of NFkappaB (hrANK)
XX or human osteoprotegerin (hOPG), and which has a binding affinity to RANK
XX ligand (RANKL) that is at least as high as the binding affinity of hrANK
XX or hOPG to RANKL, as determined by functional competition assay. The
XX protein of the invention may have osteopathic activity and may act as a
XX RANKL-mediated osteoclastogenesis or RANKL-mediated osteoclast activity
XX inhibitor. The nucleotide sequence shown in the invention may be used in
XX gene therapy. The protein of the invention or fusion proteins comprising
XX this protein are useful as a pharmaceutical, and in the preparation of a
XX medicament for treating or preventing osteoporosis, or other bone
XX diseases or diseases associated with binding of RANKL to the RANK
XX receptor. A host cell containing a vector expressing the protein is
XX useful for producing a polypeptide having binding affinity to RANKL,
XX where the polypeptide comprises at least one N- or O-glycosylation site
XX and the host cell is a eukaryotic host cell capable of in vivo
XX glycosylation, and/or the polypeptide is subjected to conjugation to a
XX non-polypeptide moiety in vitro. The protein of the invention has
XX increased functional in vivo half-life and/or serum half-life compared to
XX hrANK or hOPG and has an improved binding affinity to RANKL compared to
XX the binding affinity of hrANK or hOPG to RANKL, as determined by a
XX functional competition assay. The present sequence represents the human
XX wild type OPG (osteoprotegerin) protein used to generate the mutant
XX proteins invention

XX Sequence 401 AA;
SQ Query Match 100.0%; Score 2085; DB 5; Length 401;
Best Local Similarity 100.0%; Pred. No. 5.8e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 ETPPKYLHYDEETSHQLLCKCPGTYLKHCHTAKWKTVCAPCDPHYTTDSWHTSDECL 60
Db 22 ETPPKYLHYDEETSHQLLCKCPGTYLKHCHTAKWKTVCAPCDPHYTTDSWHTSDECL 81
QY 61 YCSPVCKELQVYKQECNRTHNRVCCKEGRYLEIEFCLKHSRCPGFGVVGAGTPERNTV 120
Db 82 YCSPVCKELQVYKQECNRTHNRVCCKEGRYLEIEFCLKHSRCPGFGVVGAGTPERNTV 141
QY 121 CKRCPDGFFSNETS KAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGFFSNETS KAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201
QY 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKNASVERIKQHSQEQTFQLLKLWKHQN 240
Db 202 CEEAFFRFAVPTKFTPNWLSVLVDNLPCTKNASVERIKQHSQEQTFQLLKLWKHQN 261
QY 241 KAQDIVKKIIQIDILCENSQVORHIGHANLTFEQLRSLMESLPKKGKVGAEDEIKTIKACP 300
Db 262 KAQDIVKKIIQIDILCENSQVORHIGHANLTFEQLRSLMESLPKKGKVGAEDEIKTIKACP 321
QY 301 SDQILKLLSLWRIKNGDQDTLKGMLHAKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRIKNGDQDTLKGMLHAKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
QY 361 QKLFLEMIGNQVQSVKISCL 380
Db 382 QKLFLEMIGNQVQSVKISCL 401
RESULT 12
ID ABP55109 standard; protein; 401 AA.
XX AC ABP55109;
XX DT 05-FEB-2003 (first entry)
XX DE Human osteoprotegerin receptor.
XX KW Osteoprotegerin; receptor; OPG; human; autoimmune disease;
KW rheumatoid arthritis; diabetes; osteoarthritis; psoriasis;
KW inflammatory bowel disease; transplant rejection; allergy;
KW immunosuppressive; antirheumatic; antiarthritic; antidiabetic;
KW antipsoriatic; immunosuppressive; antiallergic; antiinflammatory;
XX osteopathic; antiulcer; monocytic.
XX OS Homo sapiens.
XX WO200276507-A2.
XX PD 03-OCT-2002.
XX PF 06-FEB-2002; 2002WO-US001238.
XX PR 23-MAR-2001; 2001US-0278215P.
XX PA (GETH) GENENTECH INC.
XX Grewal I;
XX WPI; 2003-058352/05.
XX DR N-PSDB; ABV75843.
XX Stimulating mammalian monocytes by exposing to an OPG ligand polypeptide,
XX useful for treating immune related disorders such as autoimmune disease,
XX rheumatoid arthritis, diabetes, osteoarthritis, psoriasis, and allergy.


```
XX Disclosure; Fig 2B; 11lpp; English.
PS
XX
CC The present sequence is the protein sequence of human osteoprotegerin
CC (OPG) receptor. The invention provides methods of using OPG ligand (OPGL)
CC to activate monocytes to secrete chemokines or cytokines by exposing a
CC mammalian cell (in cell culture or in a mammal) to OPGL. Also provided
CC are methods of using OPGL to treat conditions or diseases in mammals
CC associated with, or resulting from lack of, or decreased, chemokine or
CC cytokine secretion by monocytes. The invention also provides OPGL agonist
CC and antagonist molecules to modulate immune activity. These may include
CC antibodies to the OPG or RANK receptors. An antagonist comprising an anti
CC -OPGL antibody, an anti-OPG receptor antibody, an anti-RANK receptor
CC antibody, an OPG receptor immunoadhesin or a RANK receptor immunoadhesin
CC is used in a claimed method of treating an immune-related condition,
CC especially an autoimmune disease, rheumatoid arthritis, insulin dependent
CC diabetes, osteoarthritis, inflammatory bowel disease (especially
CC ulcerative colitis or Crohn's disease), psoriasis, transplant rejection
CC or allergy
XX
SQ Sequence 401 AA;

Query Match 100.0%; Score 2085; DB 6; Length 401;
Best Local Similarity 100.0%; Pred. No. 5.8e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPFPKYLHYDEETSHQLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
Db 22 ETPFPKYLHYDEETSHQLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81

Qy 61 YCSPVCKELOVYKQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGGVQAGTPERNTV 120
Db 82 YCSPVCKELOVYKQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGGVQAGTPERNTV 141

Qy 121 CKRCPDGGFFNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGGFFNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 201

Qy 181 CEEAFFFAVPTKFTPNWLSVLDNLPCTKNVAESVERIKROHSQSQTQOLLKLWKHQN 240
Db 202 CEEAFFFAVPTKFTPNWLSVLDNLPCTKNVAESVERIKROHSQSQTQOLLKLWKHQN 261

Qy 241 KAQDIVVKIIQDIDL CENS VQRHIGHANLTPEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
Db 262 KAQDIVVKIIQDIDL CENS VQRHIGHANLTPEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy 301 SDQILKLLSLWRINKGDDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 322 SDQILKLLSLWRINKGDDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy 361 QKLFLEMIGNQVQSVKISCL 380
Db 382 QKLFLEMIGNQVQSVKISCL 401

RESULT 13
AAE34363
ID AAE34363 standard; protein; 401 AA.
XX
AC AAE34363;
XX
DT 14-MAY-2003 (first entry)
XX
DE Human osteoprotegerin (OPG) protein.
XX
KW Human; acute septic arthritis; osteomalacia; hyperparathyroidism;
KW Cushing's syndrome; receptor activator of NF-kappa B; cancer; scurvy;
KW bone formation; rickets; Langerhan's cell histiocytosis; gene therapy;
KW monocrotic fibrous dysplasia; radiation therapy; spinal cord injury;
KW RANK; Gaucher's disease; polyostotic fibrous dysplasia; OPG;
KW osteoprotegerin.
XX
OS Homo sapiens.
```

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XX Key Location/Qualifiers
FH Peptide 1..21
FT Protein /label= Signal_peptide
FT Protein 22..401 /note= "Mature OPG protein"
XX WO200292016-A2.
XX
XX 21-NOV-2002.
XX
XX 17-MAY-2002; 2002WO-US016002.
XX
XX 17-MAY-2001; 2001US-0291919P.
XX (IMMV ) IMMUNEX CORP.
XX
XX Dougall WC, Anderson DM;
XX WPI; 2003-129220/12.
XX N-PSDB; AAD52597.
XX
XX Treating patients having e.g. acute septic arthritis, osteomalacia,
XX hyperparathyroidism, Cushing's syndrome or spinal cord injury, comprises
XX administering a receptor activator of NF-kappa B antagonist to increase
XX bone formation.
XX
XX Claim 1; Page 47-49; 52pp; English.
XX
XX The invention relates to a method of treating a patient having e.g. acute
XX septic arthritis, osteomalacia, hyperparathyroidism, Cushing's syndrome
XX or spinal cord injury. The method involves administering a receptor
XX activator of NF-kappa B (RANK) antagonist to stimulate an increase in the
XX rate for formation of new bone. RANK antagonist is capable of inhibiting
XX the ability of RANK to induce NF-kappa B. The method is useful for
XX stimulating bone formation, or for treating patients having acute septic
XX arthritis, osteomalacia (including rickets and scurvy),
XX hyperparathyroidism, Cushing's syndrome, monocrotic fibrous dysplasia,
XX polycystic fibrous dysplasia, Gaucher's disease, Langerhan's cell
XX histiocytosis, spinal cord injury, patients requiring periodontal
XX reconstruction, or patients who have completed a course or radiation
XX therapy for cancer. The method is also useful for treating a patient who
XX is a prosthetic joint recipient, a bone graft recipient, or a ligament
XX graft recipient. The invention is useful in gene therapy. The present
XX sequence is human osteoprotegerin (OPG). OPG serves as human RANK
XX antagonist
XX
SQ Sequence 401 AA;

Query Match 100.0%; Score 2085; DB 6; Length 401;
Best Local Similarity 100.0%; Pred. No. 5.8e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETPFPKYLHYDEETSHQLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 60
Db 22 ETPFPKYLHYDEETSHQLCDKCPGGTYLKQHCTAKWKTVCAPCPDHYTDSWHTSDECL 81

Qy 61 YCSPVCKELOVYKQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGGVQAGTPERNTV 120
Db 82 YCSPVCKELOVYKQECNRTNHRVCECKEGRYLEIEFCLKHSRCPGGVQAGTPERNTV 141

Qy 121 CKRCPDGGFFNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 180
Db 142 CKRCPDGGFFNETSSKAPCRKHTNCSVFGLLLTQGNATHDNI CSGNSESTQKCGIDVTL 201

Qy 181 CEEAFFFAVPTKFTPNWLSVLDNLPCTKNVAESVERIKROHSQSQTQOLLKLWKHQN 240
Db 202 CEEAFFFAVPTKFTPNWLSVLDNLPCTKNVAESVERIKROHSQSQTQOLLKLWKHQN 261

Qy 241 KAQDIVVKIIQDIDL CENS VQRHIGHANLTPEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
Db 262 KAQDIVVKIIQDIDL CENS VQRHIGHANLTPEQLRSLMESLPGKKVGAEDIEKTIKACKP 321
```


FT /note= "Claimed in claim 35"
FT 32. .401
FT /note= "Claimed in claim 25"
XX
PN US2003207827-A1.
XX
XX 06-NOV-2003.
XX
XX 24-SEP-1999; 99US-00405032.
XX
XX 22-DEC-1995; 95US-00577788.
PR 03-SEP-1996; 96US-00706945.
PR 20-DEC-1996; 96US-00771777.
PR 12-AUG-1998; 98US-00132985.
XX
XX (BOYL/) BOYLE W J.
XX (LACE/) LACEY D L.
XX (CALZ/) CALZONE F J.
XX (CHAN/) CHANG M.
XX
XX Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX WPI; 2004-041572/04.
XX N-PSDB; ADM28812.
XX
XX Novel osteoprotegerin useful for treating conditions resulting in bone
XX loss such as osteoporosis, hypercalcaemia, Paget's disease of bone, bone
XX loss caused by rheumatoid arthritis or osteomyelitis.
XX
XX Claim 23; SEQ ID NO 125; 141pp; English.
XX
XX The invention relates to a purified and isolated polypeptide having
XX osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
XX having amino terminus at residue 22, and 1-216 amino acids are deleted
XX from carboxy terminus of human OPG polypeptide. Also included are an
XX isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
XX vector comprising OPG NA, a host cell transformed or transfected with the
XX vector, a transgenic mammal comprising the cell, producing OPG, a
XX polypeptide comprising an amino acid sequence of at least about 164 amino
XX acids comprising four cysteine-rich domains characteristic of the
XX cysteine rich domains of tumour necrosis factor receptor extracellular
XX regions (and an activity of increasing bone density), an antibody (Ab) or
XX its fragment which specifically binds to OPG, a composition comprising
XX OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
XX and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
XX Ab is useful for detecting the presence of OPG in a biological sample
XX which involves incubating the sample with Ab under conditions that allow
XX binding of Ab to OPG and detecting the bound Ab. OPG is useful for
XX assessing the ability of a candidate substance to bind to OPG. OPG NA is
XX useful for regulating the levels of OPG in an animal (human). The nucleic
XX acid promotes an increasing in tissue level of OPG. OPG is useful for
XX treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
XX disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
XX osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
XX osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
XX method further involves administering a substance chosen from bone
XX morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
XX inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
XX parathyroid hormone related protein and their analogues, E series of
XX prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
XX useful for treating osteoporosis such as primary osteoporosis, endocrine
XX osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
XX hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
XX, homocystinuria, Menke's syndrome, and Riley-day syndrome) and
XX osteoporosis due to immobilisation of extremities, hypercalcaemia
XX resulting from solid tumours and haematologic malignancies (multiple
XX myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
XX hypercalcaemia associated with hyperthyroidism and renal function
XX disorders, osteopaenia following surgery and osteonecrosis or bone cell
XX death. The present sequences is an OPG protein (or fragment).

Sequence 401 AA;

Query Match	100.0%;	Score 2085;	DB 8;	Length 401;
Best Local Similarity	100.0%;	Pred. No. 5.8e-153;		
Matches 380;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;
Qy	1	ETPPPKYLHYDEETSHQLL	CDKCPGGTYLKHQCTAKWTVCA	CPDPHYHSDSWHTSDECL 60
Db	22	ETPPPKYLHYDEETSHQLL	CDKCPGGTYLKHQCTAKWTVCA	CPDPHYHSDSWHTSDECL 81
Qy	61	YCSPVCKELOYVKQECNR	THNRVCECKEGRYLEIFCL	KHRSCTPPGGFVVQAGTPERTV 120
Db	82	YCSPVCKELOYVKQECNR	THNRVCECKEGRYLEIFCL	KHRSCTPPGGFVVQAGTPERTV 141
Qy	121	CKKCPDGGFFSNETSSK	APCRKHTNCSVFGLLLTQ	KGNATHDNCISGNSSESTQKCGIDVTL 180
Db	142	CKKCPDGGFFSNETSSK	APCRKHTNCSVFGLLLTQ	KGNATHDNCISGNSSESTQKCGIDVTL 201
Qy	181	CEBAFFRFAVPTKFTPN	WLSVLVDNLPQTKVNAES	VERIKROHSSQSQQTOLLKLWKHQN 240
Db	202	CEBAFFRFAVPTKFTPN	WLSVLVDNLPQTKVNAES	VERIKROHSSQSQQTOLLKLWKHQN 261
Qy	241	KAQDIVKKIIODIDL	CNSVORHIGHANLTFEOL	RSIMESLPGKKVCAEDIEKTIKACKP 300
Db	262	KAQDIVKKIIODIDL	CNSVORHIGHANLTFEOL	RSIMESLPGKKVCAEDIEKTIKACKP 321
Qy	301	SDQILKLLSLWR	IKNGDQDTLKGLMHALK	HSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db	322	SDQILKLLSLWR	IKNGDQDTLKGLMHALK	HSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
Qy	361	QKLFLEMIGNQVQSV	KISCL 380	
Db	382	QKLFLEMIGNQVQSV	KISCL 401	

Search completed: November 14, 2005, 23:12:00
Job time : 117.254 secs